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Alaska Department of Fish and Game
Division of Commercial Fisheries
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Abundance, Age, Sex, and Size Statistics for Pacific Salmon in Bristol Bay, 1991

by

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and

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ABSTRACT

Abundance, age, sex, and size data are summarized for 1991 Bristol Bay commercial catches and spawning escapements of Pacific salmon *Oncorhynchus* as part of an ongoing project to collect baseline information. These data have been used to determine spawner-recruit relationships, establish spawning escapement goals, and forecast future run sizes. Age, sex, and size of sockeye salmon *O. nerka* were estimated with stratified systematic sampling programs. Using age and sex composition data combined with escapement information, sockeye salmon harvests were assigned to river of origin to estimate each river's run. Sampling efforts for other salmon species were limited. A total of 27,661,097 salmon were caught in Bristol Bay in 1991. The catch was dominated by sockeye salmon (95%), followed by chum salmon *O. keta* (5%), coho salmon *O. kisutch* (< 1%), chinook salmon *O. tshawytscha* (< 1%), and pink salmon *O. gorbuscha* (< 1%). An estimated 42,324,080 sockeye salmon returned to Bristol Bay. Of these, 26,233,469 were commercially harvested and 16,090,611 escaped to spawn. Sockeye salmon runs to Naknek-Kvichak District accounted for 44% of the total Bristol Bay run. Age-1.3 sockeye salmon (1986 brood year) composed 46% of the total run, followed by ages 2.2 (20%), 1.2 (19%), and 2.3 (11%). Bristol Bay commercial fishermen landed 36,344 chinook salmon which were mostly ages 1.2, 1.3, and 1.4. An additional 1,273,161 chum salmon were caught, most of which were ages 0.3 and 0.4, 117,722 coho salmon, mostly age-2.1, and 401 pink salmon.

KEY WORDS: Bristol Bay, Pacific salmon, *Oncorhynchus*, catch, escapement, age composition, sex composition, size composition

INTRODUCTION

The Bristol Bay Management Area encompasses all waters east of a line from Cape Newenham to Cape Menshikof (Figure 1). Bristol Bay supports harvests of five species of Pacific salmon including the largest sockeye salmon *Oncorhynchus nerka* fishery in the world. Following sockeye salmon in average abundance are pink salmon *O. gorbuscha* during even-years, chum salmon *O. keta*, coho salmon *O. kisutch*, chinook salmon *O. tshawytscha*, and pink salmon during odd-years.

The area is divided into five fishing districts for the regulation of commercial salmon fisheries: Naknek-Kvichak, Egegik, Ugashik, Nushagak, and Togiak Districts (Figure 1). Rivers which produce major salmon runs include Kvichak, Naknek, Branch, Egegik, Ugashik, Wood, Igushik, Nuyakuk, Nushagak-Mulchatna, Snake, and Togiak Rivers. Bristol Bay sockeye salmon are intercepted in the Japanese mothership fishery (Fredin and Worlund 1974; Harris 1987), the North Alaska Peninsula fishery (Geiger 1989, Swanton and Murphy *in press*), and the South Alaska Peninsula June fishery (Gilbert 1924, Gilbert and Rich 1926, Eggers et al. 1988). At this time the magnitude of interceptions of Bristol Bay salmon in other fisheries are unknown.

The Alaska Department of Fish and Game (ADF&G) conducts a variety of programs that supply the information used to manage Bristol Bay salmon fisheries. These programs include (1) compiling catch statistics, (2) sampling catches for age, sex, and size, (3) counting major spawning escapements, (4) sampling escapements for age, sex, and size, and (5) estimating stock composition of east side district catches based on scale pattern analyses. Data generated from these programs are used to manage fisheries during the season, establish optimum escapement goals, and forecast future run sizes. This report summarizes commercial catch, escapement, age, sex, and size data for Bristol Bay salmon collected in 1991. Such data for Bristol Bay salmon have been summarized annually since 1972 (McCurdy and Paulus 1972; Paulus and Nelson 1972a, 1972b; McCurdy and Schroeder 1972; Krasnowski and Randall 1975a, 1975b, 1976; Randall and Yuen 1978; Meacham and Randall 1979; Meacham and Nelson 1980; Yuen et al. 1981; Yuen and Nelson 1983, 1984a, 1984b, 1985, 1987; Yuen and Meacham 1983; Yuen et al. 1984; Yuen 1984; Yuen et al. 1986; Yuen and Bill 1989a, 1989b, 1990; Cross and Stratton 1988; Stratton and Cross 1990; Stratton 1990, 1991).

METHODS

Catch Estimation

Commercial catches in numbers of salmon by Bristol Bay districts were taken from final operation reports prepared by fish processors. These numbers are derived from sales receipts, or fish tickets, given to fishermen by buyers at the time of delivery. Numbers may differ slightly from final catch numbers compiled by ADF&G, Division of Commercial Fisheries as errors are detected and corrected. The number of Bristol Bay sockeye salmon caught by the Japanese mothership fishery and the North Alaska Peninsula fishery in 1991 is unknown. All sockeye caught during the South Alaska Peninsula fishery around Unimak and Shumagin Islands in June were assumed to be of Bristol Bay origin. These catch statistics were obtained from computer summaries of fish tickets. A 1987 tagging study (Eggers et al. 1988) indicated that sockeye stocks other than Bristol Bay composed a small percentage of the South Alaska Peninsula harvest.

Escapement Enumeration

Escapements of salmon in Bristol Bay in 1991 were estimated with various methods by Division of Commercial Fisheries. Sockeye salmon escapement estimates were based on visual counts made from towers erected on the banks of Kvichak, Naknek, Egegik, Ugashik, Wood, Igushik, and Togiak Rivers. Counts were made daily for 10 min every hour on both river banks. Counting began on one bank at the start of each hour, followed by counting on the opposite bank. Each 10-min count was expanded into an hourly estimate to calculate the total daily escapement. Escapements in Branch and Snake Rivers, as well as various rivers in Egegik, Ugashik and Togiak Districts, were estimated from aerial surveys of major spawning grounds (Russell et al. 1992). Side-scanning sonar located in the lower Nushagak River near Portage Creek was used to estimate salmon escapements for the entire Nushagak River drainage (Woolington and Miller *in press*).

Age, Sex, and Size Estimation

Ages for all 1991 Bristol Bay salmon runs were determined by examining scales (Mosher 1968), except ages of sockeye salmon spawning in Branch River were determined from otoliths (Bilton and Jenkinson 1968). European notation (e.g., 2.2; Koo 1962) was used to record ages: numerals preceding the decimal refer to number of freshwater annuli, numerals following the decimal refer to number of marine annuli. Total age from time of egg deposition or brood year is the sum of these numbers plus one.

Scales were collected from the left side of the fish approximately two rows above the lateral line in the area crossed by a diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (INPFC 1963). Scales were mounted on gum cards and impressions made on cellulose acetate cards with a heated hydraulic press (Clutter and Whitesel 1956). Salmon were measured to the nearest millimeter from the middle of the eye to the fork of the tail. Weights were taken to the nearest 0.1 kg. Sex was determined from morphometric characteristics.

Age, weight and length (AWL) data for sockeye salmon were collected from all district catches and major escapements. These data were also collected for (1) chinook salmon catches from Naknek-Kvichak, Ugashik, Nushagak, and Togiak Districts, and escapements into Naknek, Egegik (King Salmon River tributaries) Nushagak, Mulchatna, and Togiak Rivers; (2) chum salmon catches from Nushagak and Togiak Districts, and escapement into Nushagak River; and (3) coho salmon from escapements into Naknek, Egegik (King Salmon River tributaries), and Nushagak Rivers. Pink salmon were not sampled for AWL information.

Catch sampling was stratified spatially by district; escapement sampling was stratified by major drainage. The number of time strata sampled differed among fisheries and rivers. District catches of sockeye salmon were usually sampled each fishing period from 23 June to 17 July except when fishing periods were greater than 24 h. When this occurred, each district catch was generally sampled once every 72 h. For dates not sampled, the age composition of sockeye salmon harvested was assumed to be the same as that estimated for the most recent catch date. Catches of other species were sampled less frequently than sockeye salmon. All chinook salmon catches and escapements were sampled at least once, Togiak District catch was sampled twice. Coho salmon were sampled once in Naknek, Egegik, and Nushagak Rivers escapements. Chum salmon were sampled once in Nushagak River escapement, twice in Nushagak District catch, and three times in Togiak District catch.

Sample size goals for sockeye and chinook salmon catches were set at 600 fish per species per stratum. Goals for chum and coho salmon catches were set at 400 individuals per species per stratum. These goals were originally selected to ensure that a sufficient sample would be collected such that, with repeated sampling, each major age group in each stratum would be estimated within 5% of its true value 90% of the time based on the normal approximation of a binomial proportion (Goodman 1965; Cochran 1977). However, Thompson's (1987) work on the "worst-case" parameter value for the multinomial distribution suggested that our sample size would result in simultaneously estimating true percentage of each age within 5% of its true value 95% of the time.

Sample size goals for sockeye salmon escapements were set at 200 fish per day which, in practice, was only reached during the peak of the run. Daily age composition estimates were compared using chi-square tests. Samples from successive dates were combined into the same time stratum if significant ($\alpha = 0.05$) differences were not found.

Age, sex, and size data for chinook and coho salmon sport harvests in Naknek River were documented by Coggins (1992). Age, sex, and size data for chinook salmon sport harvests in the middle Mulchatna River were documented by Dunaway and Bingham (1992). Age data for chinook and coho salmon escapements in King Salmon River tributaries (Egegik District) were collected by United States Fish and Wildlife Service (USFWS) personnel and are listed in this report.

Estimation of Sockeye Salmon Catch Composition

Sockeye salmon harvested in Egegik and Ugashik Districts were assumed to be destined for Egegik and Ugashik Rivers, respectively. Similarly, sockeye salmon caught in Togiak River Section of Togiak District were assumed to be destined for Togiak River. Sockeye salmon harvested in other sections of Togiak District were assumed to be returning to systems not monitored for escapement or age composition and were not assigned to Togiak River. All sockeye salmon caught in set gillnets fished from Igushik Beach were included in total run estimates for Igushik River. Sockeye salmon harvested in Naknek-Kvichak District were assumed to be returning to Kvichak, Branch, and Naknek Rivers. Sockeye harvested in Nushagak District were assumed to be returning to Wood, Igushik and Nushagak Rivers. Sockeye salmon caught in these districts were assigned to a natal river under the assumption that age and sex proportion within the catch was the same as within the combined escapement:

$$\hat{C}_{ijk} = \hat{C}_{jk} \frac{\hat{E}_{ijk}}{\sum_{i=1}^n \hat{E}_{ijk}} \quad (1)$$

where

- \hat{C}_{ijk} = estimated catch of sockeye salmon from river i age j and sex k ,
- \hat{C}_{jk} = estimated district catch of sockeye salmon age j and sex k ,
- \hat{E}_{ijk} = estimated escapement to river i of sockeye salmon age j and sex k , and
- n = number of rivers contributing to the mixed-stock catch.

This has been referred to as the standard method (STD).

Recently, run size estimates for individual Eastside Bristol Bay river systems, Kvichak, Naknek, Egegik, and Ugashik Rivers, have been estimated using scale pattern analyses (SPA; Cross and Stratton 1989, Cross et al. 1990, Burns 1991, Stratton et al *in press*, Stratton and Miller *in press*) and have differed from estimates based on STD.

RESULTS

A total of 27,661,097 salmon were harvested in Bristol Bay in 1991. Sockeye salmon dominated the catch (95%), followed by chum (5%), coho (< 1%), chinook (< 1%), and pink (< 1%) salmon (Table 1). The 1991 salmon harvest was 52% greater than the 20-year 1971-1990 average catch and 7% greater than the 10-year 1981-1990 average catch (ADF&G 1991).

The fishing season began 1 June and ended 30 September (ADF&G 1990). All districts except Togiak were closed to fishing during the following periods unless specifically opened by emergency order: 1 June until 17 July in Nushagak District; 16 June until 17 July in Egegik District; 23 June until 17 July in Naknek-Kvichak and Ugashik Districts (Table 2). Fishing in Naknek-Kvichak, Egegik, Ugashik, and Nushagak Districts prior to and after the above dates was regulated by weekly fishing periods. These periods extended from 0900 hours Monday until 0900 hours Saturday in Nushagak and Naknek-Kvichak Districts; and from 0900 hours Monday until 0900 hours Friday in Egegik and Ugashik Districts. Togiak District was regulated by weekly fishing periods from 1 June through 30 September. These periods extended from 0900 hours Monday until 0900 hours Saturday in Cape Pierce, Osviak, and Matogak Sections; from 0900 hours Monday until 0900 hours Friday in Togiak River Section; and from 0900 hours Monday through 0900 hours Thursday in Kulukak Section of Togiak District.

Bristol Bay Runs

Sockeye Salmon

The 1991 Bristol Bay inshore sockeye salmon run was estimated at 42,324,080 (Table 3), of which 26,233,469 were harvested commercially and 16,090,611 escaped to spawn in Bristol Bay rivers. The estimated sockeye run to Naknek-Kvichak District was 18,637,189, or 44% of the total Bristol Bay run, followed by a sockeye run of 9,587,723 in Egegik District (23%), 7,694,791 in Nushagak District (18%), 5,521,712 in Ugashik District (13%), and 882,665 in Togiak District (2%). Age-1.3 (1986 brood year) sockeye salmon composed 46% of the total Bristol Bay run. Age 2.2 (1986 brood year) contributed 20% of the run, 1.2 (1987 brood year) 19%, and 2.3 (1985 brood year) 11% (Tables 4, 5). Mean length of sockeye salmon was 533 mm; mean weight was 2.5 kg (Table 6). Females (52%) were slightly more abundant than males (48%; NSC = non-statistical comparison).

Not included in inshore run estimates was the catch of Bristol Bay sockeye salmon taken by South Alaska Peninsula fisheries. The South Alaska Peninsula June fishery catch, regulated by weekly guideline harvests, totaled 1,553,150 sockeye salmon (Appendix A.1). Harvest guidelines were based on percentages of the preseason forecast of the Bristol Bay catch: 6.8% was set for South Unimak and 1.5% for Shumagin Islands (ADF&G 1990). The South Alaska Peninsula sockeye catch was not sampled for age, weight, and length data in 1991. Therefore, 1991 catch- by-age group data presented in Appendix A.1.

was derived by applying the percent- by-age group determined for the 1991 Bristol Bay inshore sockeye salmon run (Table 5).

Chinook Salmon

An estimated 36,344 chinook salmon were harvested in Bristol Bay in 1991 (Table 1). Most were caught in Nushagak (22,898) and Togiak (7,088) Districts. Chinook salmon were also harvested in Naknek-Kvichak (4,528), Ugashik (1,365), and Egegik (465) Districts. Age-1.3 chinook salmon (1986 brood year) dominated Nushagak and Togiak Districts catch and Togiak River escapement. Most chinook salmon sampled in Naknek and Mulchatna Rivers escapements were also age-1.3 (1986 brood year). Age-1.2 chinook (1987 brood year) represented 36% of the samples from Togiak District catch, 29% from Nushagak River escapement, and 21% from the Nushagak River sport catch. Age-1.4 chinook salmon (1985 brood year) represented 69% of the Naknek River escapement into Big Creek and 61% of Ugashik District catch.

Chum Salmon

An estimated 1,273,161 chum salmon were harvested in Bristol Bay in 1991 (Table 1). Most were harvested in Nushagak (465,582) and Naknek-Kvichak (430,453) Districts. The Togiak District harvest was 249,113 chum salmon, followed by Egegik (71,313) and Ugashik (56,700) Districts harvests. Most chum salmon sampled were age-0.3 (1987 brood year) and age-0.4 (1986 brood year).

Coho Salmon

An estimated 117,722 coho salmon were harvested in Bristol Bay in 1991 (Table 1). Most were caught in Egegik (46,487) and Ugashik (45,048) Districts. Coho salmon were also harvested in Naknek-Kvichak (16,517), Nushagak (5,399), and Togiak (4,271) Districts. Age-2.1 (1987 brood year) coho dominated all sampled catches and escapements.

Pink Salmon

The 1991 Bristol Bay harvest of pink salmon was 401 (Table 1). During this odd-year pink run fishermen landed 121 pink salmon in Egegik District, 121 in Togiak District, 94 in Naknek-Kvichak District, 63 in Nushagak District, and 20 in Ugashik District. Pink salmon were not sampled for age, sex, or size data.

Naknek-Kvichak District Runs

A total of 11,009,895 salmon were harvested in Naknek-Kvichak District (Table 7), 96% of which were sockeye salmon. Chum, coho, chinook, and pink salmon accounted for the remainder of the total harvest. Approximately 85% of the total district harvest occurred from 30 June to 13 July.

Sockeye Salmon

The inshore run of sockeye salmon to Naknek-Kvichak District, which included district catch plus escapements to Kvichak, Branch, and Naknek Rivers, was 18,637,189 (Table 8). Age-1.3 sockeye salmon were the dominant (44%) age group; ages 1.2 (24%), 2.3 (16%), and 2.2 (15%) followed in abundance. The Naknek-Kvichak commercial catch of 10,558,304 sockeye salmon was composed of 53% age-1.3, 18% age-2.3, 15% age-1.2, and 13% age-2.2 fish (Table 9). Mean length of sockeye salmon harvested was 546 mm, and mean weight was 2.7 kg.

An estimated 8,060,711 Kvichak River sockeye salmon returned to Bristol Bay: 3,837,923 were caught and 4,222,788 escaped to spawn (Table 10). Age-1.2 sockeye salmon accounted for over 50% of the run, or 4,039,762. Over 85% of the spawning escapement into Kvichak River passed the counting towers by 13 July (Table 11). The proportion of age-1.2 sockeye salmon in the escapement remained high throughout the run (Table 12). Mean length of sockeye salmon in the escapement was 510 mm.

Of the 606,585 sockeye salmon bound for Branch River, 328,996 were harvested and 277,589 escaped to spawn (Table 13). Sockeye salmon returning to Branch River were primarily age 1.3 (43%), 2.2 (31%), and 1.2 (25%).

The estimated total run to Naknek River was 9,969,893 sockeye salmon, of which 6,391,385 were harvested and 3,578,508 escaped the fishery (Table 14). Approximately 85% of the escapement to Naknek River was obtained by 9 July (Table 15). Sockeye salmon escaping to Naknek River were mostly age 1.3 (62%) 2.2 (17%) and 2.3 (14%; Table 16). The proportion of age-.2 sockeye salmon in Naknek River escapement increased through time; the proportion of age-.3 sockeye salmon decreased (NSC). Mean length of sockeye escaping to Naknek River was 544 mm.

Chinook Salmon

Approximately 89% of the 4,528 chinook salmon caught in Naknek-Kvichak District were age 1.2 (Table 17). Mean length of chinook salmon in the commercial catch sample (n=18) was 568 mm. Chinook salmon harvested by the Naknek River sport fishery were mostly ages 1.3 (41%), 1.4 (40%), and 1.2 (18%; Table 18). Age-1.4 chinook salmon composed 69% of the Big Creek escapement sample.

Coho Salmon

The Naknek-Kvichak District catch of coho salmon totaled 16,517 (Table 7). No age, sex, or size data were collected from the 1991 commercial catch; however, 83% of coho salmon sampled from the lower Naknek River sport fishery were age 2.1 (Table 19).

Egegik District Runs

An estimated 6,919,184 salmon were caught in Egegik District (Table 20). Sockeye salmon (98%) dominated the catch, while chum (1%), coho (< 1%), chinook (< 1%), and pink (< 1%) salmon were minor contributors to the catch. Approximately 85% of the total district harvest occurred between 30 June and 12 July.

Sockeye Salmon

Catch and escapement of Egegik River sockeye salmon totaled 9,587,678 (Table 21). Age-2.2 (40%) and -1.3 (37%) sockeye salmon composed most of the run. The commercial fishery harvested 6,800,798 sockeye salmon. Mean length of sockeye salmon in the catch was 539 mm, and mean weight was 2.6 kg (Table 22). Over 85% of the 2,786,880-fish escapement into Egegik River was obtained by 12 July (Table 23). Mean length of sockeye salmon in the escapement was 525 mm (Table 24).

Chinook Salmon

None of the 465 chinook salmon harvested in Egegik District were sampled for age, sex, or size. A small combined sample (n=41) of spawners from Gertrude and Contact Creeks, tributaries of King Salmon River, was composed of 34% age-1.3, 32% age-1.4, and 29% age-1.2 (Table 25).

Coho Salmon

An estimated 46,487 coho salmon were caught in Egegik District (Table 26). No age, sex, or size data were collected from the 1991 commercial catch; however, 82% of coho salmon in a pooled escapement sample from six tributaries in the district were age 2.1 (Table 26). Mean length of coho salmon in the escapement sample was 554 mm.

Ugashik District Runs

An estimated 3,142,811 salmon were caught in Ugashik District in 1991 (Table 27). The catch was primarily composed of sockeye (97%), chum (2%), and coho salmon (1%); chinook and pink salmon combined accounted for < 1% of the catch. Approximately 85% of the catch occurred between 4 to 18 July.

Sockeye Salmon

An estimated 5,497,002 Ugashik River sockeye salmon returned to Bristol Bay: 55% were caught and 45% escaped to spawn (Table 28). Most sockeye salmon returning to Ugashik River were age 1.3 (43%), age 2.2 (33%), age 1.2 (15%), and age 2.3 (8%). The commercial fishery harvested 3,039,696 sockeye salmon; mean length was 542 mm, and mean weight was 2.6 kg (Table 29). Over 85% of the estimated 2,457,306 sockeye salmon which escaped into Ugashik River passed the counting tower by 16 July (Table 30). Mean length of the escapement was 529 mm (Table 31).

Chinook Salmon

The commercial fishery harvested 1,365 chinook salmon in Ugashik District. Age-1.4 (61%) and -1.3 (24%) chinook salmon dominated the catch (Table 32).

Coho Salmon

The Ugashik District catch of coho salmon was 45,048 (Table 27). No age, sex, or size data were collected from commercial catch or escapement in 1991.

Nushagak District Runs

A total of 5,766,661 salmon were caught in Nushagak District (Table 33). Most of the catch was sockeye (91%) and chum (8%) salmon. Chinook, coho, and pink salmon combined accounted for < 1% of the catch. Over 85% of the total district harvest occurred from 1 to 12 July.

Sockeye Salmon

The inshore run of sockeye salmon to Nushagak District was estimated to be 7,683,871 (Table 34). Age-1.3 (63%), -1.2 (20%), and -0.3 (13%) sockeye salmon composed most of the sampled run. The Nushagak District catch was composed of 57% age-1.3, 22% age-1.2, and 16% age-0.3 sockeye salmon. Mean length of the catch was 531 mm, and mean weight was 2.6 kg (Table 35). Igushik Beach set nets caught 405,303 sockeye salmon (Table 36) which were 89% age 1.3 (Table 37).

Of the estimated 3,422,966 sockeye salmon bound for Wood River, 2,263,046 were caught and 1,159,920 escaped to spawn (Table 38). Age-1.3 composed 52% and age-1.2 40% of the run. Over 85% of the Wood River spawning escapement was obtained by 11 July (Table 39); mean length of the escapement was 531 mm (Table 40).

An estimated 2,477,814 Igushik River sockeye salmon returned to Bristol Bay: 1,721,688 were harvested and 756,126 escaped into the river (Table 41). The Igushik River sockeye salmon run was 89% age-1.3 fish. Over 85% of the escapement entered the river by 12 July (Table 42). Mean length of the escapement was 566 mm (Table 43).

Of the estimated 1,783,091 sockeye salmon bound for Nushagak River, 1,287,985 were caught and 495,106 escaped (Table 44). Sockeye salmon returning to Nushagak River were mostly ages 0.3 (52%) and 1.3 (38%). Over 85% of the escapement passed the sonar counters near Portage Creek by 5 July (Table 45). Age-1.3 (52%) and age-0.3 (39%) sockeye salmon accounted for most of the escapement. Mean length of the escapement was 546 mm (Table 46).

Chinook Salmon

An estimated 22,898 chinook salmon were caught in Nushagak District (Table 47), most of which were age 1.3 (42%), 1.4 (34%), and 1.2 (21%). Mean length of chinook salmon in the catch was 765 mm; mean weight was 8.7 kg. An estimated 135,054 chinook salmon passed the sonar site on Nushagak River (Table 48). Over 85% of the escapement entered the river by 6 July. The escapement was composed of 37% age-1.3, 33% age-1.4, 29% age-1.2, 1% age-1.5, and < 1% age-1.1 and -2.4 chinook salmon (Table 49). Mean length of the escapement was 727 mm. Most chinook salmon captured in the lower Nushagak and mid-Mulchatna River sport fishery were age 1.3, 1.4, and 1.2 (Table 50).

Chum Salmon

A total of 465,583 chum salmon were caught in Nushagak District (Table 51). Age-0.3 fish composed 67% of the harvest. Mean length of chum salmon in the commercial catch was 555 mm; mean weight was 2.9 kg. An estimated 252,436 chum salmon passed the Nushagak River sonar counter in 1991 primarily composed of age-0.3 (59%) and age-0.4 (39%) fish (Table 52). Over 85% of the escapement entered the river by 6 July (Table 48). Mean length of the escapement was 570 mm.

Coho Salmon

A total of 5,399 coho salmon were caught in Nushagak District (Table 33). No age, sex, or size data were collected from the commercial catch in 1991. An estimated 41,153 coho salmon escaped into Nushagak River (Table 53). The escapement was mostly age-2.1 coho salmon (88%). Mean length of the escapement was 526 mm.

Pink Salmon

The 1991 Nushagak District commercial salmon catch included 63 pink salmon (Table 33). No pink salmon were counted at the sonar counter on Nushagak River (Table 48). Pink salmon were not sampled.

Togiak District Runs

An estimated 822,545 salmon were caught in Togiak District (Table 54). Most of the catch consisted of sockeye (68%) and chum (30%) salmon; chinook (1%), coho (< 1%), and pink (< 1%) salmon were minor contributors. Togiak River Section accounted for 94% (773,480) of the total district salmon catch (Table 55). The remainder of the catch was taken in Kulukak (5%), Matogak (< 1%), and Osviak (< 1%) Sections (Appendices A.2-A.4).

Sockeye Salmon

An estimated 776,773 Togiak River sockeye salmon returned to Bristol Bay: 67% were caught and 33% escaped into the river (Table 56). The run was dominated by age-1.3 (55%) and -1.2 (24%) fish. Of the 522,090 harvested from Togiak River Section, most were age 1.3 (56%; Table 57). Mean length in Togiak River Section catch was 551 mm; mean weight was 3.0 kg. Kulukak Section fishermen caught 33,425 sockeye salmon; age-1.3 fish composed 85% of the harvest (Appendix A.5). Mean length of Kulukak Section catch was 560 mm; mean weight was 3.1 kg. An estimated 1,375 sockeye salmon were harvested in Osviak Section, and age-1.3 fish (91%) dominated the catch (Appendix A.6). Mean length of Osviak Section catch was 564 mm. Escapement into Togiak Lake was estimated to be 254,683 sockeye salmon (Table 58). Over 85% of the escapement passed the counting tower by 31 July. Most sockeye salmon in the escapement were age 1.3 (53%) and age 1.2 (35%; Table 59). Mean length of sockeye salmon in the escapement was 550 mm.

Chinook Salmon

Of the 7,088 chinook salmon caught in Togiak District, most (6,472) were harvested in Togiak River Section (Table 60). Age-1.3 (42%), -1.2 (36%), and -1.4 (17%) chinook salmon dominated the Togiak River Section catch. Mean length of chinook salmon in the catch was 675 mm; mean weight was 6.2 kg.

Chum Salmon

An estimated 249,113 chum salmon were caught in Togiak District, of which 240,539 were caught in Togiak River Section (Table 61). Age-0.3 chum salmon accounted for 62% and age-0.4 36% of the harvest. Mean length of the Togiak River Section catch was 557 mm; mean weight was 3.1 kg. The 6,259 chum salmon caught in Kulukak Section were mostly age 0.3 (64%) and 0.4 (33%; Appendix A.7). Chum salmon in the Kulukak Section catch had a mean length of 564 mm, and a mean weight of 3.1 kg. An additional 1,272 chum salmon were harvested in the Osviak Section. These chum salmon were predominantly age-0.4 (78%); the mean length was 587 mm (Appendix A.8).

Coho Salmon

All but 9 of the 4,271 coho salmon harvested in Togiak District were caught in Togiak River Section (4,262; Table 55). No age, sex, or size data were collected from the Togiak District commercial coho salmon catch or escapement in 1991.

Pink Salmon

All but 4 of the 121 pink salmon harvested in Togiak District were caught in Togiak River Section (117; Table 55). Pink salmon were not sampled for age, sex, or size data.

Sockeye Salmon Return From Brood Year Escapement

Returns of sockeye salmon from brood year escapements have varied considerably from 1956 to 1988 (years of completed data) for the nine rivers monitored in Bristol Bay (Appendices A.9 - A.17). These data have been used to determine spawner-recruit relationships, establish spawning escapement goals, and forecast future run sizes (Fried 1984; Fried and Yuen 1985, 1986, 1987; Fried et al. 1988; Fried and Cross 1988, 1990; Cross et al. 1992).

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Table 1. Commercial salmon catch by district, Bristol Bay, 1991.

District		Harvest (in numbers of salmon)					Total
		Sockeye	Chinook	Chum	Pink	Coho	
Naknek-Kvichak	Numbers	10,558,304	4,528	430,453	94	16,517	11,009,896
	Percent	95.9	0.0 ^a	3.9	0.0	0.2	100.0
Egegik	Numbers	6,800,798	465	71,313	121	46,487	6,919,184
	Percent	98.3	0.0	1.0	0.0	0.7	100.0
Ugashik	Numbers	3,039,696	1,365	56,700	2	45,048	3,142,811
	Percent	96.7	0.0	1.8	0.0	1.4	100.0
Nushagak	Numbers	5,272,719	22,898	465,582	63	5,399	5,766,661
	Percent	91.4	0.4	8.1	0.0	0.1	100.0
Togiak	Numbers	561,952	7,088	249,113	121	4,271	822,545
	Percent	68.3	0.9	30.3	0.0	0.5	100.0
Total	Numbers	26,233,469	36,344	1,273,161	401	117,722	27,661,097
	Percent	94.8	0.1	4.6	0.0	0.4	100.0

^a Represented < 0.1%

Table 2. ADF&G emergency orders issued for Bristol Bay in 1991.

Number ^a	Date and Time				Action	Duration
<u>NAKNEK-KVICHAK DISTRICT</u>						
AKN 01 ^b	June 10	9:00 a.m.	to Sept 30	12:00 MN	Reduced	24 h
AKN 05	June 30	3:00 p.m.	to July 1	2:30 a.m.	Opened	11.5 h
AKN 11	June 2	4:30 p.m.	to July 3	5:30 p.m.	Opened	25 h
AKN 27	July 10	9:30 a.m.	to July 11	11:30 p.m.	Opened	14 h
AKN 35	July 11	3:00 p.m.	to July 12	12:00 MN	Opened	33 h
AKN 44 ^c	July 17	9:00 a.m.	to Sept 30	12:00 MN	Reduced	
<u>Naknek Section</u>						
AKN 07	July 1	2:30 a.m.	to July 2	4:00 a.m.	Opened	25.5 h
AKN 09	July 2	4:00 a.m.	to July 2	4:30 p.m.	Extended	12.5 h
AKN 13	July 3	5:30 p.m.	to July 4	6:30 p.m.	Opened	25 h
AKN 16	July 4	6:30 p.m.	to July 5	7:00 p.m.	Extended	24.5 h
AKN 18	July 5	7:00 p.m.	to July 6	8:00 p.m.	Extended	25 h
AKN 21	July 6	8:00 p.m.	to July 7	9:00 p.m.	Extended	25 h
AKN 23	July 7	9:00 p.m.	to July 8	12:00 NOON	Extended	15 h
AKN 25	July 9	8:00 p.m.	to July 10	9:30 a.m.	Opened	25.5 h
AKN 37	July 12	12:00 MN	to July 13	6:00 p.m.	Opened	18 h
AKN 40	July 14	2:30 p.m.	to July 15	3:30 p.m.	Opened	25 h
AKN 42	July 15	3:30 p.m.	to July 17	9:00 a.m.	Extended	41.5 h
<u>Kvichak Section</u>						
AKN 09	July 2	4:00 a.m.	to July 2	4:30 p.m.	Opened	12.5 h
AKN 13 ^d	July 3	5:30 p.m.	to July 4	5:00 a.m.	Opened	11.5 h
AKN 14	July 4	4:30 p.m.	to July 4	6:30 p.m.	Opened	13.5 h
AKN 16 ^d	July 4	6:30 p.m.	to July 5	12:00 NOON	Extended	17.5 h
AKN 18 ^d	July 5	12:00 NOON	to July 6	6:00 a.m.	Extended	18 h
AKN 31 ^e	July 10	5:00 p.m.	to July 10	11:30 p.m.	Opened	6.5 h
AKN 42	July 16	4:00 a.m.	to July 17	9:00 a.m.	Opened	28 h
<u>EGEGIK DISTRICT</u>						
AKN 02	June 21	6:30 a.m.	to June 21	5:30 p.m.	Opened	11 h
AKN 03	June 26	10:30 a.m.	to June 26	10:30 p.m.	Opened	12 h
AKN 04	June 26				Rescinded AKN 03	
AKN 05	June 30	1:30 p.m.	to June 30	12:00 MN	Opened	10.5 h
AKN 06	June 30	12:01 a.m.	to July 1	2:00 p.m.	Extended	14 h
AKN 08	July 1	2:00 p.m.	to July 2	1:00 a.m.	Extended	11 h
AKN 10	July 2	3:00 p.m.	to July 3	3:00 p.m.	Opened	24 h
AKN 12	July 3	3:00 p.m.	to July 4	3:00 a.m.	Extended	12 h
AKN 15	July 4	5:00 p.m.	to July 5	4:00 p.m.	Opened	23 h
AKN 19	July 6	7:00 p.m.	to July 7	5:00 a.m.	Opened	10 h
AKN 22	July 8	6:30 a.m.	to July 8	5:30 p.m.	Opened	11 h
AKN 24	July 9	7:30 a.m.	to July 9	5:30 p.m.	Opened	10 h
AKN 26	July 9	5:30 p.m.	to July 10	7:30 a.m.	Extended	14 h
AKN 30	July 10	11:00 p.m.	to July 11	8:00 a.m.	Extended	22 h
AKN 33	July 12	10:30 a.m.	to July 13	10:30 a.m.	Opened	24 h
AKN 38	July 14	1:30 a.m.	to July 14	12:00 MN	Opened	22.5 h
AKN 41	July 15	3:00 p.m.	to July 16	1:00 p.m.	Opened	22 h
AKN 43	July 17	4:00 a.m.	to July 17	9:00 a.m.	Opened	5 h
AKN 45	July 19	9:00 a.m.	to July 22	9:00 a.m.	Opened	72 h

-Continued-

Table 2. (p 2 of 4)

Number ^a	Date and Time				Action	Duration
<u>UGASHIK DISTRICT</u>						
AKN 12	July 4	8:00 a.m.	to July 5	4:00 a.m.	Opened	12 h
AKN 17 ^f	July 5	5:00 p.m.	to July 6	5:00 a.m.	Opened	12 h
AKN 20	July 6	5:00 p.m.	to July 7	6:00 a.m.	Opened	13 h
AKN 24	July 9	7:30 a.m.	to July 9	7:30 p.m.	Opened	12 h
AKN 28	July 9	7:30 p.m.	to July 10	8:30 a.m.	Extended	13 h
AKN 29	July 10	8:30 a.m.	to July 10	8:30 p.m.	Extended	12 h
AKN 32	July 11	9:30 a.m.	to July 12	10:30 a.m.	Opened	25 h
AKN 34	July 12	10:30 a.m.	to July 13	11:00 a.m.	Extended	23.5 h
AKN 36	July 13	11:00 a.m.	to July 14	12:00 NOON	Extended	25 h
AKN 39	July 14	12:00 NOON	to July 17	9:00 a.m.	Extended	69 h
AKN 45	July 19	9:00 a.m.	to July 22	9:00 a.m.	Opened	72 h
<u>NUSHAGAK DISTRICT</u>						
DLG 01	May 27	12:01 a.m.	to June 17	9:00 a.m.	Subsistence	
DLG 03	June 17	9:00 a.m.	to June 23	9:00 a.m.	Subsistence	
DLG 05	June 22	9:00 a.m.	to June 23	9:00 a.m.	Subsistence Closure	1 d
DLG 07	June 24	11:00 a.m.	to June 24	6:00 p.m.	Opened	7 h
DLG 09	June 30	3:30 p.m.	to July 1	3:30 a.m.	Opened	12 h
DLG 11	July 1	3:30 a.m.	to July 1	4:30 p.m.	Extended	13 h
DLG 12	July 1	4:30 p.m.	to July 2	5:00 a.m.	Opened	12.5 h
DLG 13	July 2	5:00 a.m.	to July 2	5:00 p.m.	Extended	12 h
DLG 14	July 2	5:00 p.m.	to July 3	5:30 a.m.	Opened	12.5 h
DLG 15	July 3	5:30 a.m.	to July 3	6:00 p.m.	Extended	12.5 h
DLG 16	July 3	6:00 p.m.	to July 4	6:00 a.m.	Extended	12 h
DLG 18	July 4	6:00 a.m.	to July 4	7:00 p.m.	Extended	13 h
DLG 19	July 4	7:00 p.m.	to July 5	8:00 p.m.		25 h
DLG 20	July 5	8:00 p.m.	to July 6	8:30 p.m.	Closed	24.5 h
DLG 21	July 6	8:30 p.m.	to July 7	9:30 p.m.	Opened	25 h
DLG 22	July 7	9:30 p.m.	to July 8	10:00 p.m.	Opened	24.5 h
DLG 23	July 8	10:00 p.m.	to July 9	11:00 p.m.	Subsistence	25 h
DLG 24	July 10	10:30 a.m.	to July 10	12:00 MN	Opened	13.5 h
DLG 25	July 10	12:00 MN	to July 11	12:00 MN	Extended	24 h
DLG 27	July 11	12:00 MN	to July 13	2:00 a.m.	Extended	26 h
DLG 29	July 13	2:00 a.m.	to July 14	2:30 a.m.	Extended	24.5 h
DLG 30	July 14	2:30 a.m.	to July 17	9:00 a.m.		78.5 h
DLG 32	July 20	9:00 a.m.	to July 22	9:00 a.m.	Closed	48 h
DLG 33	July 24	9:00 a.m.	to Sept 30	12:00 MN	Subsistence	
DLG 34	July 22	9:00 a.m.	to July 23	10:30 a.m.	Opened	25.5 h
DLG 41 ^g	Aug. 19	12:01 a.m.	to Sept 30	12:00 MN	Subsistence	
<u>Igushik Section</u>						
DLG 09	June 30	3:30 p.m.	to July 1	4:30 p.m.	Opened	25 h
DLG 24	July 9	11:00 p.m.	to July 10	12:00 MN	Opened	25 h
<u>TOGIAK DISTRICT</u>						
DLG 02 ^h	June 1	12:01 a.m.	to Sept 30	12:00 MN		
DLG 04 ⁱ	June 17	9:00 a.m.	to June 24	9:00 a.m.		
DLG 10 ^j	July 1	9:00 a.m.	to Sept 30	12:00 MN		
DLG 17	July 4	9:00 a.m.	to July 5	9:00 a.m.	Opened	24 h
DLG 26	July 11	9:00 a.m.	to Aug 12	9:00 a.m.	Opened	24 h

-Continued-

Table 2. (p 3 of 4)

Number ^a	Date and Time				Action	Duration
TOGIAC DISTRICT (Continued)						
DLG 39	Aug 8	9:00 a.m.	to Aug 10	9:00 a.m.	Opened	48 h
DLG 40 ^b	Aug 12	9:00 a.m.	to Aug 14	9:00 a.m.	Reduced	48 h
DLG 42 ^b	Aug 19	9:00 a.m.	to Aug 21	9:00 a.m.	Reduced	48 h
DLG 43	Aug 26	9:00 a.m.	to Sept 30	9:00 a.m.	Closed	
Togiak Section						
DLG 06	June 25	10:00 a.m.	to June 25	10:00 p.m.	Opened	12 h
DLG 08 ¹	June 25	1:00 p.m.	to June 26	1:00 a.m.	Opened	12 h
DLG 28	July 12	9:00 a.m.	to July 13	9:00 a.m.	Opened	24 h
DLG 31	July 18	9:00 a.m.	to July 22	9:00 a.m.	Opened	96 h
DLG 36	July 25	9:00 a.m.	to July 29	9:00 a.m.	Opened	96 h
DLG 38	Aug 1	9:00 a.m.	to Aug 5	9:00 a.m.	Opened	96 h
Kulukak Section						
DLG 06	June 25	10:00 a.m.	to June 25	10:00 p.m.	Opened	12 h
DLG 08 ¹	June 25	1:00 p.m.	to June 26	1:00 a.m.	Opened	12 h
DLG 35 ^b	July 22	9:00 a.m.	to July 24	9:00 a.m.	Opened	48 h
DLG 37	July 29	9:00 a.m.	to Aug 1	9:00 a.m.	Closed	72 h
Matogak, Osviak, and Cape Peirce Sections						
DLG 06	June 23				Closed	
DLG 31	July 18	9:00 a.m.	to July 20	9:00 a.m.	Opened	48 h
DLG 36	July 25	9:00 a.m.	to July 27	9:00 a.m.	Opened	48 h
DLG 38	Aug 1	9:00 a.m.	to Aug 3	9:00 a.m.	Opened	48 h

^a Prefix code on emergency order indicates office of origin (AKN = King Salmon, DLG = Dillingham).

^b Weekly fishing period reduced to 96 h: 9:00 a.m. Monday through 9:00 a.m. Friday, prior to 23 June and after 17 July.

^c Weekly fishing period reduced to 96 h: 9:00 a.m. Monday through 9:00 a.m. Friday.

^d Set gillnet gear only.

^e Drift and set gill net gear from 5:00 p.m. to 11:30 p.m. 10 July, set gillnet gear only for remainder of opening.

^f Also waived 48 h transfer period in Egegik District

-Continued-

Table 2. (p 4 of 4)

Number*	Date and Time	Action	Duration
^g		Subsistence fishing period reduced to 72 h per week.	
^h		Required use of 6-3/4 in (17.14 cm) or smaller mesh	
ⁱ		Weekly fishing period reduced to 48 h: 9:00 a.m. Tuesday through 9:00 a.m. Thursday.	
^j		Weekly fishing period reduced to 72 h: 9:00 a.m. Monday through 9:00 a.m. Thursday.	
^k		Weekly fishing period reduced to 48 h: 9:00 a.m. Monday through 9:00 a.m. Wednesday.	
^l		Amended opening time	

Table 3. Sockeye salmon inshore run by river system, Bristol Bay, 1991.

SYSTEM	CATCH	ESCAPEMENT	RUN
NAKNEK-KVICHAK DISTRICT			
Kvichak River	3,837,923	4,222,788	8,060,711
Branch River	328,996	277,589	606,585
Naknek River	6,391,385	3,578,508	9,969,893
TOTAL	10,558,304	8,078,885	18,637,189
EGEGIK DISTRICT			
Egegik River	6,800,798	2,786,880	9,587,678
King Salmon River		45	45
TOTAL	6,800,798	2,786,925	9,587,723
UGASHIK DISTRICT			
Ugashik River	3,039,696	2,457,306	5,497,002
Dog Salmon River		12,500	12,500
King Salmon River		12,195	12,195
Grassy Creek		15	15
TOTAL	3,039,696	2,482,016	5,521,712
NUSHAGAK DISTRICT			
Wood River	2,263,046	1,159,920	3,422,966
Igushik River	1,721,688	756,126	2,477,814
Nushagak River	1,287,985	495,106	1,783,091
Snake River		10,920	10,920
TOTAL	5,272,719	2,422,072	7,694,791
TOGIAK DISTRICT			
Togiak Lake	522,090	254,683	776,773
Togiak River and Tributaries		23,720	23,720
Quigmy River		70	70
Kulukak Section	33,425	23,940	57,365
Matogak Section	5,062	1,720	6,782
Osviak Section	1,375	5,060	6,435
Cape Peirce Section		1,120	1,120
Negukthlik River		5,100	5,100
Ungalikthluk River		5,300	5,300
TOTAL	561,952	320,713	882,665
BRISTOL BAY TOTAL	26,233,469	16,090,611	42,324,080

Table 4. Sockeye salmon inshore run by age group and river system, Bristol Bay, 1991.

River System	Number of Fish by Age Group													Total*
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
Naknek-Kvichak District:														
Kvichak River	10,108	4,390	66,876	4,039,762	30,307	1,208	1,046,155	1,343,137	1,636	1,513,565	1,045	160	2,362	8,060,711
Branch River		711		152,278		55	258,849	186,515		7,961		14	202	606,585
Naknek River			11,224	324,413	3,695	1,073	6,950,732	1,232,997	42,760	1,397,928		1,137	3,934	9,969,893
Total	10,108	5,101	78,100	4,516,453	34,002	2,336	8,255,736	2,762,649	44,396	2,919,454	1,045	1,311	6,498	18,637,189
Egegik River	168	1,127	8,921	856,640	63,777		3,586,581	3,787,327	9,042	1,216,686	7,390	12,602	37,417	9,587,678
Ugashik River	484	1,497	9,114	805,095	10,233	556	2,375,123	1,824,034	4,350	462,459			4,057	5,497,002
Nushagak District														
Wood River	4,458	1,333	29,756	1,360,608	301	1,379	1,942,532	68,588	1,933	12,078				3,422,966
Igushik River			10,586	160,334		1,333	2,195,368	26,128	6,632	76,380		1,053		2,477,814
Nushagak River	68,149		922,402	36,982		57,236	669,780		12,461	16,081				1,783,091
Total	72,607	1,333	962,744	1,557,924	301	59,948	4,807,680	94,716	21,026	104,539		1,053		7,683,871
Togiak District														
Togiak River	629		6,789	183,756		672	428,609	80,979	772	74,406		161		776,773
Kulukak Section Catch			1,277	1,762		133	28,545	555	94	1,033	13	13		33,425
Osviak Section Catch			42	28			1,249		28	28				1,375
TOTAL	83,996	9,058	1,066,987	7,921,658	108,313	63,645	19,483,523	8,550,260	79,708	4,778,605	8,448	15,140	47,972	42,217,313

* The following catches and escapements were not sampled for age information: catch from Matogak Section (5,062) of Togiak District; escapement from King Salmon River (45) of Egegik District, Dog Salmon (12,500) and King Salmon Rivers (12,195) of Ugashik District, Snake River (10,920) of Nushagak District, Togiak River below the counting tower and tributaries (23,720), Kulukak River and tributaries (17,300), Tithe Creek Ponds (6,640), Quigmy (70), Matogak (1,720), Osviak (5,060), Slug (1,120), Ungalikthluk (5,300), and Negukthluk (5,100) Rivers of Togiak District.

Table 5. Percentages by age group and river system of sockeye salmon runs to Bristol Bay, 1991.

River System	Percentages by Age Group													Total ^a
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
Naknek-Kvichak District:														
Kvichak River	0.02	0.01	0.16	9.57	0.07	0.00 ^b	2.48	3.18	0.00	3.59	0.00	0.00	0.01	19.09
Branch River	0.00	0.00	0.00	0.36	0.00	0.00	0.61	0.44	0.00	0.02	0.00	0.00	0.00	1.44
Naknek River	0.00	0.00	0.03	0.77	0.01	0.00	16.46	2.92	0.10	3.31	0.00	0.00	0.01	23.62
Total	0.02	0.01	0.18	10.70	0.08	0.01	19.56	6.54	0.11	6.92	0.00	0.00	0.02	44.15
Egegik River	0.00	0.00	0.02	2.03	0.15	0.00	8.50	8.97	0.02	2.88	0.02	0.03	0.09	22.71
Ugashik River	0.00	0.00	0.02	1.91	0.02	0.00	5.63	4.32	0.01	1.10	0.00	0.00	0.01	13.02
Nushagak District														
Wood River	0.01	0.00	0.07	3.22	0.00	0.00	4.60	0.16	0.00	0.03	0.00	0.00	0.00	8.11
Igushik River	0.00	0.00	0.03	0.38	0.00	0.00	5.20	0.06	0.02	0.18	0.00	0.00	0.00	5.87
Nushagak River	0.16	0.00	2.18	0.09	0.00	0.14	1.59	0.00	0.03	0.04	0.00	0.00	0.00	4.22
Total	0.17	0.00	2.28	3.69	0.00	0.14	11.39	0.22	0.05	0.25	0.00	0.00	0.00	18.20
Togiak District														
Togiak River	0.00	0.00	0.02	0.44	0.00	0.00	1.02	0.19	0.00	0.18	0.00	0.00	0.00	1.84
Kulukak Section Catch	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Osviak Section Catch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.20	0.02	2.53	18.76	0.26	0.15	46.15	20.25	0.19	11.32	0.02	0.04	0.11	100.00

^a The following catches and escapements were not sampled for age information: catch from Matogak Section (5,062) of Togiak District; escapement from King Salmon River (45) of Egegik District, Dog Salmon (12,500) and King Salmon Rivers (12,195) of Ugashik District, Snake River (10,920) of Nushagak District, Togiak River below the counting tower and tributaries (23,720), Kulukak River and tributaries (17,300), Tithe Creek Ponds (6,640), Quigmy (70), Matogak (1,720), Osviak (5,060), Slug (1,120), Ungalikthluk (5,300), and Negukthluk (5,100) Rivers of Togiak District.

^b Represented < 0.01% of the total.

Table 6. Age, sex, and size composition of sockeye salmon catch and escapement, Bristol Bay, 1991.

	Age Group														
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total ^a	
Males	68,992	8,353	472,092	3,894,697	78,192	39,302	9,538,111	3,842,995	42,393	2,199,274	837	8,546	20,286	20,214,070	
Percent	0.16	0.02	1.12	9.23	0.19	0.09	22.59	9.10	0.10	5.21	0.00 ^b	0.02	0.05	47.88	
Sample Size	69	23	523	4,332	120	38	11,040	4,008	51	1,825	2	10	20	22,061	
Mean Length	422	297	549	498	362	607	572	510	593	578	538	606	580	545	
Std. Error	6	8	3	1	3	6	0 ^c	1	7	1		9	6	0	
Sample Size	68	23	519	4,305	116	38	10,991	3,977	51	1,811	2	10	20	21,931	
Mean Weight	1.28		2.92	1.97		4.46	3.00	2.24	3.81	2.95		2.22		2.65	
Std. Error	0.10		0.15	0.05		0.41	0.02	0.03	0.90	0.05				0.01	
Sample Size	9		98	254		8	1,053	185	10	143				1,760	
Females	15,004	705	594,895	4,026,961	30,121	24,343	9,945,412	4,707,265	37,315	2,579,331	7,611	6,594	27,686	22,003,243	
Percent	0.04	0.00	1.41	9.54	0.07	0.06	23.56	11.15	0.09	6.11	0.02	0.02	0.07	52.12	
Sample Size	21	1	537	4,485	41	24	11,079	4,824	33	2,067	9	8	24	23,153	
Mean Length	427	305	534	483	381	585	544	494	579	553	504	540	555	523	
Std. Error	11		1	1	9	5	0	0	3	1	14	70	5	0	
Sample Size	21	1	533	4,475	40	24	10,979	4,817	33	2,041	9	8	24	23,005	
Mean Weight			2.63	1.85		3.54	2.62	2.01	2.64	2.64		2.22	3.02	2.35	
Std. Error			0.05	0.04		0.09	0.02	0.03		0.05		0.59		0.01	
Sample Size			101	228		3	1,128	188	3	156		2	1	1,810	
Both Sexes	83,996	9,058	1,066,987	7,921,658	108,313	63,645	19,483,523	8,550,260	79,708	4,778,605	8,448	15,140	47,972	42,217,313	
Percent	0.20	0.02	2.53	18.76	0.26	0.15	46.15	20.25	0.19	11.32	0.02	0.04	0.11	100.00	
Sample Size	90	24	1,060	8,817	161	62	22,119	8,832	84	3,892	11	18	44	45,214	
Mean Length	423	297	541	490	367	599	558	501	586	565	508	577	566	533	
Std. Error	5	8	1	0	3	4	0	0	4	1	14	19	4	0	
Sample Size	89	24	1,052	8,780	156	62	21,970	8,794	84	3,852	11	18	44	44,936	
Mean Weight	1.28		2.76	1.91		4.13	2.80	2.12	3.43	2.78		2.22	3.02	2.49	
Std. Error	0.10		0.06	0.03		0.25	0.02	0.02	0.90	0.04		0.59		0.01	
Sample Size	9		199	482		11	2,181	373	13	299		2	1	3,570	

^a The following catches and escapements were not sampled for age information: Matogak Section (5,062) catch, Togiak District; and escapements from King Salmon River (45), Egegik District; Dog Salmon (12,500) and King Salmon Rivers (12,195) and Grassy Creek (15), Ugashik District; Snake River (10,920), Nushagak District; Togiak River below counting tower and tributaries (23,720), Kulukak Lake and River (17,300), Tithe Creek Ponds (6,640), Quigmy (70), Matogak (1,720), Osviak (5,060), Slug (1,120), Ungalikthluk (5,300), and Negukthlik (5,100) Rivers, Togiak District.

^b Represented < 0.1%

^c Standard Error < 0.5

Table 7. Commercial salmon catch by period and species, Naknek-Kvichak District, 1991.

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
6/10	15	10	6	0	0	0	16
6/11	24	47	15	0	0	0	62
6/12	24	161	21	5	0	0	187
6/13	24	357	112	13	0	0	482
6/14	9	320	53	16	0	0	389
6/17	15	14,455	564	571	0	0	15,590
6/18	24	9,102	321	342	0	0	9,765
6/19	24	14,206	273	569	0	0	15,048
6/20	24	24,263	346	766	0	0	25,375
6/21	9	29,846	236	1,076	0	0	31,158
6/22 ^b	0	1,024	0	38	0	0	1,062
6/25 ^b	0	700	0	26	0	0	726
6/27 ^b	0	1,713	5	28	0	0	1,746
6/28 ^b	0	1,998	0	48	0	0	2,046
6/29 ^b	0	2,104	0	52	0	0	2,156
6/30	9.5	355,107	183	2,543	0	0	357,833
7/01	24	741,406	50	7,726	0	0	749,182
7/02	24	850,782	130	12,774	0	0	863,686
7/03	24	709,441	291	12,273	0	0	722,005
7/04	24	1,407,958	356	21,938	0	0	1,430,252
7/05	24	516,291	113	3,966	0	0	520,370
7/06	24	474,838	82	8,196	0	0	483,116
7/07	24	709,686	33	5,882	0	0	715,601
7/08	12	743,208	44	12,525	0	0	755,777
7/09	16	651,586	24	6,483	0	0	658,093
7/10	24	770,710	106	7,240	0	0	778,056
7/11	24	773,418	197	14,956	0	0	788,571
7/12	24	349,683	175	9,421	0	0	359,279
7/13	18	227,666	41	3,528	0	0	231,235
7/14	24	139,048	17	6,111	0	0	145,176
7/15	24	155,049	34	10,270	0	0	165,353
7/16	24	283,549	87	28,214	0	0	311,850
7/17	24	247,370	65	16,220	0	0	263,655
7/18	24	147,449	35	14,156	0	0	161,640
7/19	9	61,165	34	4,411	0	0	65,610
7/22	15	47,600	62	42,565	3	26	90,256
7/23	24	52,278	105	53,373	4	17	105,777
7/24	24	18,149	67	27,423	6	59	45,704
7/25	24	6,445	69	11,635	13	356	18,518
7/26	9	4,133	32	7,054	6	166	11,391

-Continued-

Table 7. (p 2 of 2)

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
7/29	15	2,261	8	11,397	6	306	13,978
7/30	24	3,119	28	15,242	15	408	18,812
7/31	24	2,215	32	11,799	5	522	14,573
8/01	24	16,179	10	7,768	2	996	10,393
8/02	9	2,053	17	3,312	8	1,271	6,661
8/05	15	679	5	7,085	5	350	8,124
8/06	24	519	12	6,727	5	1,298	8,561
8/07	24	367	6	3,781	3	1,646	5,803
8/08	24	209	5	1,674	1	866	2,755
8/09	9	412	2	1,604	8	718	2,744
8/12	15	32	1	306	0	268	607
8/13	24	159	2	1,388	0	650	2,199
8/14	24	75	2	1,072	0	448	1,597
8/15	24	44	2	1,471	0	1,322	2,839
8/16	9	106	2	658	2	1,075	1,843
8/19	15	15	2	155	0	505	677
8/20	24	19	2	99	0	616	736
8/21	24	20	3	315	0	1,300	1,638
8/22	24	22	2	55	0	469	548
8/23	9	10	0	49	1	320	380
8/26	15	3	0	13	0	313	329
8/27	24	19	1	48	1	145	214
8/28	24	8	0	1	0	81	90
Total	1,159.5	10,558,304	4,528	430,453	94	16,517	11,009,896
Percent		95.9	0.0 ^c	3.9	0.0 ^c	0.2	100.0

^a See Table 2 for emergency order fishing periods.

^b ADF&G test fish catch

^c Represented < 0.1%

Table 8. Age and sex composition of sockeye salmon inshore run, Naknek-Kvichak District, 1991.

	Age Group													Total
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
<u>CATCH</u>														
Males	1,770		13,919	742,628		1,770	2,744,821	553,321	4,414	811,147				4,873,790
Percent	0.01		0.07	3.98		0.01	14.73	2.97	0.02	4.35				26.15
Females			19,872	885,530			2,855,859	820,434	14,917	1,080,964		440	6,498	5,684,514
Percent			0.11	4.75			15.32	4.40	0.08	5.80		0.00*	0.03	30.50
Both Sexes	1,770		33,791	1,628,158		1,770	5,600,680	1,373,755	19,331	1,892,111		440	6,498	10,558,304
Percent	0.01		0.18	8.74		0.01	30.05	7.37	0.10	10.15		0.00	0.03	56.65
<u>ESCAPEMENT</u>														
Males	4,374	4,396	26,271	1,499,715	24,538		1,386,726	693,326	15,913	518,536		871		4,174,666
Percent	0.02	0.02	0.14	8.05	0.13		7.44	3.72	0.09	2.78		0.00		22.40
Females	3,964	705	18,038	1,388,580	9,464	566	1,268,330	695,568	9,152	508,807	1,045			3,904,219
Percent	0.02	0.00	0.10	7.45	0.05	0.00	6.81	3.73	0.05	2.73	0.01			20.95
Both Sexes	8,338	5,101	44,309	2,888,295	34,002	566	2,655,056	1,388,894	25,065	1,027,343	1,045	871		8,078,885
Percent	0.04	0.03	0.24	15.50	0.18	0.00	14.25	7.45	0.13	5.51	0.01	0.00		43.35
<u>CATCH AND ESCAPEMENT</u>														
Males	6,144	4,396	40,190	2,242,343	24,538	1,770	4,131,547	1,246,647	20,327	1,329,683		871		9,048,456
Percent	0.03	0.02	0.22	12.03	0.13	0.01	22.17	6.69	0.11	7.13		0.00		48.55
Females	3,964	705	37,910	2,274,110	9,464	566	4,124,189	1,516,002	24,069	1,589,771	1,045	440	6,498	9,588,733
Percent	0.02	0.00	0.20	12.20	0.05	0.00	22.13	8.13	0.13	8.53	0.01	0.00	0.03	51.45
Both Sexes	10,108	5,101	78,100	4,516,453	34,002	2,336	8,255,736	2,762,649	44,396	2,919,454	1,045	1,311	6,498	18,637,189
Percent	0.05	0.03	0.42	24.23	0.18	0.01	44.30	14.82	0.24	15.66	0.01	0.01	0.03	100.00

^a Represented < 0.01%

Table 9. Age, sex, and size composition of sockeye salmon commercial catch,
Naknek-Kvichak District, 1991.

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4		3.3
Sample Period 1: 10 - 25 June											
Males		368	7,184		23,944	2,579	184	12,894			47,153
Percent		0.39	7.60		25.34	2.73	0.19	13.65			49.90
Sample Size		2	39		130	14	1	70			256
Mean Length		579	511		575	512	634	583			564
Std. Error		25	3		2	7		3			2
Sample Size		2	39		130	14	1	70			256
Females		368	6,078		21,000	4,052	184	15,656			47,338
Percent		0.39	6.43		22.22	4.29	0.19	16.57			50.10
Sample Size		2	33		114	22	1	85			257
Mean Length		526	506		558	516	564	560			548
Std. Error		42	4		2	8		3			2
Sample Size		2	33		114	22	1	85			257
Both Sexes		736	13,262		44,944	6,631	368	28,550			94,491
Percent		0.78	14.04		47.56	7.02	0.39	30.21			100.00
Sample Size		4	72		244	36	2	155			513
Mean Length		552	509		567	515	599	570			556
Std. Error		25	2		2	6		2			1
Sample Size		4	72		244	36	2	155			513

-Continued-

Table 9. (p 2 of 11)

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 2: 27 - 30 June											
Males			32,151		80,896	15,557		38,374			166,978
Percent			8.91		22.41	4.31		10.63			46.26
Sample Size			31		78	15		37			161
Mean Length			506		574	535		579			558
Std. Error			4		2	5		4			2
Sample Size			31		78	15		37			161
Females			39,411		79,860	16,594	1,037	57,042			193,944
Percent			10.92		22.13	4.60	0.29	15.80			53.74
Sample Size			38		77	16	1	55			187
Mean Length			505		556	514	609	568			546
Std. Error			5		3	6		3			2
Sample Size			38		77	16	1	55			187
Both Sexes			71,562		160,756	32,151	1,037	95,416			360,922
Percent			19.83		44.54	8.91	0.29	26.44			100.00
Sample Size			69		155	31	1	92			348
Mean Length			506		565	524	609	572			551
Std. Error			3		2	4		3			1
Sample Size			69		155	31	1	92			348

-Continued-

Table 9. (p 3 of 11)

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4		3.3
Sample Period 3: 1 - 3 July											
Males	1,770	1,770	155,803	1,770	416,065	138,098	1,770	173,507			890,553
Percent	0.08	0.08	6.77	0.08	18.08	6.00	0.08	7.54			38.69
Sample Size	1	1	88	1	235	78	1	98			503
Mean Length	500	462	519	531	565	524	530	577			552
Std. Error			3		2	3		3			1
Sample Size	1	1	88	1	235	78	1	98			503
Mean Weight			2.34	2.96	3.22	2.44		3.46			2.99
Std. Error			0.18		0.11	0.12		0.09			0.06
Sample Size			8	1	35	9		14			67
Females		10,623	233,704		640,916	208,917		315,146		1,770	1,411,076
Percent		0.46	10.15		27.85	9.08		13.69		0.08	61.31
Sample Size		6	132		362	118		178		1	797
Mean Length		523	508		547	506		555		556	536
Std. Error		12	2		1	2		2			1
Sample Size		6	130		362	118		178		1	795
Mean Weight		2.79	1.97		2.81	2.08		2.75			2.55
Std. Error		0.35	0.10		0.07	0.09		0.15			0.05
Sample Size		2	13		38	9		20			82
Both Sexes	1,770	12,393	389,507	1,770	1,056,981	347,015	1,770	488,653		1,770	2,301,629
Percent	0.08	0.54	16.92	0.08	45.92	15.08	0.08	21.23		0.08	100.00
Sample Size	1	7	220	1	597	196	1	276		1	1,300
Mean Length	500	515	512	531	554	513	530	563		556	542
Std. Error		12	2		1	2		2			1
Sample Size	1	7	218	1	597	196	1	276		1	1,298
Mean Weight		2.79	2.12	2.96	2.97	2.22		3.00			2.72
Std. Error		0.35	0.09		0.06	0.07		0.10			0.04
Sample Size		2	21	1	73	18		34			149

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Table 9. (p 4 of 11)

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 4: 4 - 6 July											
Males	4,779	243,732			783,766	119,476		186,383			1,338,136
Percent	0.20	10.16			32.67	4.98		7.77			55.78
Sample Size	1	51			164	25		39			280
Mean Length	609	515			580	523		586			564
Std. Error		3			2	6		4			1
Sample Size	1	51			164	25		39			280
Mean Weight		1.92			3.30	2.10		3.32			2.94
Std. Error		0.11			0.09	0.09		0.13			0.06
Sample Size		7			32	6		7			52
Females	4,779	205,499			568,708	143,372	9,558	129,035			1,060,951
Percent	0.20	8.57			23.71	5.98	0.40	5.38			44.22
Sample Size	1	43			119	30	2	27			222
Mean Length	482	500			554	508	585	555			537
Std. Error		5			2	4	4	5			2
Sample Size	1	43			118	30	2	27			221
Mean Weight		1.98			2.75	2.02		3.00			2.53
Std. Error		0.20			0.12	0.10		0.13			0.08
Sample Size		5			14	7		4			30
Both Sexes	9,558	449,231			1,352,474	262,848	9,558	315,418			2,399,087
Percent	0.40	18.73			56.37	10.96	0.40	13.15			100.00
Sample Size	2	94			283	55	2	66			502
Mean Length	546	508			569	514	585	574			552
Std. Error		3			1	4	4	3			1
Sample Size	2	94			282	55	2	66			501
Mean Weight		1.95			3.07	2.06		3.19			2.76
Std. Error		0.11			0.07	0.07		0.09			0.05
Sample Size		12			46	13		11			82

-Continued-

Table 9. (p 5 of 11)

	Age Group										
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 5: 7 - 9 July											
Males	4,102	176,399			389,719	147,683		151,785			869,688
Percent	0.19	8.38			18.52	7.02		7.21			41.33
Sample Size	1	43			95	36		37			212
Mean Length	503	508			567	514		575			547
Std. Error		4			3	5		4			2
Sample Size	1	43			95	36		37			212
Mean Weight		1.83			3.17	2.25		3.03			2.72
Std. Error		0.22			0.13	0.17		0.23			0.09
Sample Size		10			21	7		8			46
Females	4,102	201,013			520,992	209,217		299,468			1,234,792
Percent	0.19	9.55			24.76	9.94		14.23			58.67
Sample Size	1	49			127	51		73			301
Mean Length	522	487			545	508		548			530
Std. Error		4			2	4		3			1
Sample Size	1	49			126	51		73			300
Mean Weight		1.74			2.56	2.02		2.60			2.34
Std. Error		0.13			0.06	0.05		0.18			0.06
Sample Size		6			36	11		12			65
Both Sexes	8,204	377,412			910,711	356,900		451,253			2,104,480
Percent	0.39	17.93			43.27	16.96		21.44			100.00
Sample Size	2	92			222	87		110			513
Mean Length	513	497			554	511		557			537
Std. Error		3			2	3		2			1
Sample Size	2	92			221	87		110			512
Mean Weight		1.78			2.82	2.12		2.74			2.50
Std. Error		0.12			0.06	0.08		0.14			0.05
Sample Size		16			57	18		20			111

-Continued-

Table 9. (p 6 of 11)

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 6: 10 July											
Males		34,420			248,423	22,448		58,364			363,655
Percent		4.47			32.23	2.91		7.57			47.18
Sample Size		23			166	15		39			243
Mean Length		521			579	529		582			571
Std. Error		7			2	5		4			1
Sample Size		23			166	15		39			243
Mean Weight		2.21			3.32	2.97		3.37			3.20
Std. Error		0.25			0.09	0.40		0.11			0.07
Sample Size		5			35	3		10			53
Females		41,903			261,892	26,937	2,993	73,330			407,055
Percent		5.44			33.98	3.50	0.39	9.51			52.82
Sample Size		28			175	18	2	49			272
Mean Length		499			551	487	570	553			542
Std. Error		6			2	6	4	3			1
Sample Size		28			175	18	2	49			272
Mean Weight		1.83			2.48	1.57	2.73	2.60			2.38
Std. Error		0.09			0.08	0.10		0.25			0.07
Sample Size		6			22	4	1	4			37
Both Sexes		76,323			510,315	49,385	2,993	131,694			770,710
Percent		9.90			66.21	6.41	0.39	17.09			100.00
Sample Size		51			341	33	2	88			515
Mean Length		509			565	506	570	565			555
Std. Error		4			1	4	4	3			1
Sample Size		51			341	33	2	88			515
Mean Weight		2.00			2.89	2.21	2.73	2.94			2.77
Std. Error		0.13			0.06	0.19		0.14			0.05
Sample Size		11			57	7	1	14			90

-Continued-

Table 9. (p 7 of 11)

	Age Group										
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 7: 11 - 13 July											
Males		2,460	36,906		452,717	44,287	2,460	130,402			669,232
Percent		0.18	2.73		33.52	3.28	0.18	9.65			49.54
Sample Size		1	15		184	18	1	53			272
Mean Length		525	521		576	532	597	571			569
Std. Error			7		2	8		3			1
Sample Size		1	15		184	18	1	53			272
Mean Weight			3.17		3.30	3.33		3.24			3.28
Std. Error					0.08						0.05
Sample Size			1		23	1		1			26
Females			61,510		403,509	95,956		118,100		2,460	681,535
Percent			4.55		29.87	7.10		8.74		0.18	50.46
Sample Size			25		164	39		48		1	277
Mean Length			506		549	502		551		595	539
Std. Error			5		2	5		3			1
Sample Size			25		164	39		48		1	277
Mean Weight			2.34		2.92			2.74			2.82
Std. Error					0.07			0.09			0.05
Sample Size			1		14			8			23
Both Sexes		2,460	98,416		856,226	140,243	2,460	248,502		2,460	1,350,767
Percent		0.18	7.29		63.39	10.38	0.18	18.40		0.18	100.00
Sample Size		1	40		348	57	1	101		1	549
Mean Length		525	512		563	511	597	561		595	554
Std. Error			4		1	4		2			1
Sample Size		1	40		348	57	1	101		1	549
Mean Weight			2.65		3.12	3.33		3.00			3.07
Std. Error					0.05			0.09			0.04
Sample Size			2		37	1		9			49

-Continued-

Table 9. (p 8 of 11)

	Age Group									Total	
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4		3.3
Sample Period 8: 14 - 15 July											
Males			9,168		99,444	13,400		21,863			143,875
Percent			3.12		33.81	4.56		7.43			48.92
Sample Size			13		141	19		31			204
Mean Length			508		576	525		573			566
Std. Error			8		2	6		4			2
Sample Size			13		140	19		31			203
Mean Weight			2.24		3.31	2.69		3.20			3.17
Std. Error			0.17		0.08	0.35		0.27			0.08
Sample Size			3		34	2		6			45
Females			14,811		102,264	17,632	705	14,105		705	150,222
Percent			5.04		34.77	6.00	0.24	4.80		0.24	51.08
Sample Size			21		145	25	1	20		1	213
Mean Length			503		551	503	620	553		577	541
Std. Error			6		2	5		4			2
Sample Size			21		145	25	1	20		1	213
Mean Weight			1.92		2.61	1.87		2.98		3.02	2.49
Std. Error			0.35		0.07	0.32		0.10			0.07
Sample Size			3		35	5		3		1	47
Both Sexes			23,979		201,708	31,032	705	35,968		705	294,097
Percent			8.15		68.59	10.55	0.24	12.23		0.24	100.00
Sample Size			34		286	44	1	51		1	417
Mean Length			505		563	512	620	565		577	553
Std. Error			5		1	4		3			1
Sample Size			34		285	44	1	51		1	416
Mean Weight			2.04		2.96	2.22		3.11		3.02	2.82
Std. Error			0.22		0.06	0.24		0.17			0.05
Sample Size			6		69	7		9		1	92

-Continued-

Table 9. (p 9 of 11)

	Age Group										
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 9: 16 July											
Males	440	17,171			77,933	15,410		11,007			121,961
Percent	0.16	6.06			27.48	5.43		3.88			43.01
Sample Size	1	39			177	35		25			277
Mean Length	477	509			570	521		566			554
Std. Error		3			2	4		8			2
Sample Size	1	39			177	35		25			277
Mean Weight		2.40			3.61			3.47			3.40
Std. Error		0.13			0.22			0.07			0.16
Sample Size		2			9			2			13
Females		23,776			97,306	18,052	440	21,574	440		161,588
Percent		8.39			34.32	6.37	0.16	7.61	0.16		56.99
Sample Size		54			221	41	1	49	1		367
Mean Length		500			542	504	560	548	618		533
Std. Error		3			2	3		4			1
Sample Size		54			221	41	1	49	1		367
Mean Weight		2.15			2.82			2.54			2.67
Std. Error		0.05			0.16			0.11			0.11
Sample Size		3			7			9			19
Both Sexes	440	40,947			175,239	33,462	440	32,581	440		283,549
Percent	0.16	14.44			61.80	11.80	0.16	11.49	0.16		100.00
Sample Size	1	93			398	76	1	74	1		644
Mean Length	477	504			554	512	560	554	618		542
Std. Error		2			1	3		4			1
Sample Size	1	93			398	76	1	74	1		644
Mean Weight		2.25			3.17			2.85			2.98
Std. Error		0.06			0.13			0.07			0.09
Sample Size		5			16			11			32

-Continued-

Table 9. (p 10 of 11)

	Age Group										
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
Sample Period 10: 17 July - 28 August											
Males		29,694			171,914	34,383		26,568			262,559
Percent		4.96			28.72	5.74		4.44			43.86
Sample Size		19			110	22		17			168
Mean Length		495			567	509		569			552
Std. Error		5			3	6		6			2
Sample Size		19			110	22		17			168
Mean Weight		2.11			3.05	2.43					2.84
Std. Error		0.21			0.12						0.09
Sample Size		2			18	1					21
Females		57,825			159,412	79,705		37,508		1,563	336,013
Percent		9.66			26.63	13.32		6.27		0.26	56.14
Sample Size		37			102	51		24		1	215
Mean Length		494			546	503		555		577	528
Std. Error		4			2	3		6			2
Sample Size		37			102	51		24		1	215
Mean Weight		1.83			2.49	1.93		2.42			2.23
Std. Error		0.12			0.11	0.08		0.14			0.06
Sample Size		6			11	7		4			28
Both Sexes		87,519			331,326	114,088		64,076		1,563	598,572
Percent		14.62			55.35	19.06		10.70		0.26	100.00
Sample Size		56			212	73		41		1	383
Mean Length		495			557	505		561		577	538
Std. Error		3			2	3		4			1
Sample Size		56			212	73		41		1	383
Mean Weight		1.93			2.78	2.08		2.42			2.49
Std. Error		0.11			0.08	0.08		0.14			0.05
Sample Size		8			29	8		4			49

-Continued-

Table 9. (p 11 of 11)

	Age Group										
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
All Periods Combined:											
Males	1,770	13,919	742,628	1,770	2,744,821	553,321	4,414	811,147			4,873,790
Percent	0.02	0.13	7.03	0.02	26.00	5.24	0.04	7.68			46.16
Sample Size	1	7	361	1	1,480	277	3	446			2,576
Mean Length	500	539	513	531	573	521	572	578			559
Std. Error		25	2		1	2		2			1
Sample Size	1	7	361	1	1,479	277	3	446			2,575
Mean Weight			2.09	2.96	3.26	2.41		3.28			2.99
Std. Error			0.08		0.04	0.08		0.08			0.03
Sample Size			38	1	207	29		48			323
Females		19,872	885,530		2,855,859	820,434	14,917	1,080,964	440	6,498	5,684,514
Percent		0.19	8.39		27.05	7.77	0.14	10.24	0.00	0.06	53.84
Sample Size		10	460		1,606	411	8	608	1	4	3,108
Mean Length		513	499		549	505	584	553	618	578	536
Std. Error		12	2		1	2	3	1			1
Sample Size		10	458		1,604	411	8	608	1	4	3,104
Mean Weight		2.79	1.93		2.71	2.01	2.73	2.71		3.02	2.50
Std. Error		0.35	0.07		0.04	0.04		0.07			0.03
Sample Size		2	43		177	43	1	64		1	331
Both Sexes	1,770	33,791	1,628,158	1,770	5,600,680	1,373,755	19,331	1,892,111	440	6,498	10,558,304
Percent	0.02	0.32	15.42	0.02	53.05	13.01	0.18	17.92	0.00	0.06	100.00
Sample Size	1	17	821	1	3,086	688	11	1,054	1	4	5,684
Mean Length	500	524	506	531	561	512	581	564	618	578	546
Std. Error		11	1		1	1	3	1			0
Sample Size	1	17	819	1	3,083	688	11	1,054	1	4	5,679
Mean Weight		2.79	2.01	2.96	2.98	2.18	2.73	2.95		3.02	2.73
Std. Error		0.35	0.05		0.03	0.04		0.05			0.02
Sample Size		2	81	1	384	72	1	112		1	654

Table 10. Age and sex composition of sockeye salmon estimated catch and escapement, Kvichak River, 1991.

	Age Group													
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
<u>CATCH</u>														
Males	1,770		12,653	665,503		642	379,113	281,510	355	477,230				1,818,776
Percent	0.02		0.16	8.26		0.01	4.70	3.49	0.00*	5.92				22.56
Females			15,905	790,590			329,273	383,637		497,220		160	2,362	2,019,147
Percent			0.20	9.81			4.08	4.76		6.17		0.00*	0.03	25.05
Both Sexes	1,770		28,558	1,456,093		642	708,386	665,147	355	974,450		160	2,362	3,837,923
Percent	0.02		0.35	18.06		0.01	8.79	8.25	0.00*	12.09		0.00*	0.03	47.61
<u>ESCAPEMENT</u>														
Males	4,374	3,685	23,881	1,343,963 *	20,843		191,534	352,740	1,281	305,075				2,247,376
Percent	0.05	0.05	0.30	16.67	0.26		2.38	4.38	0.02	3.78				27.88
Females	3,964	705	14,437	1,239,706	9,464	566	146,235	325,250		234,040	1,045			1,975,412
Percent	0.05	0.01	0.18	15.38	0.12	0.01	1.81	4.04		2.90	0.01			24.51
Both Sexes	8,338	4,390	38,318	2,583,669	30,307	566	337,769	677,990	1,281	539,115	1,045			4,222,788
Percent	0.10	0.05	0.48	32.05	0.38	0.01	4.19	8.41	0.02	6.69	0.01			52.39
<u>CATCH AND ESCAPEMENT</u>														
Males	6,144	3,685	36,534	2,009,466	20,843	642	570,647	634,250	1,636	782,305				4,066,152
Percent	0.08	0.05	0.45	24.93	0.26	0.01	7.08	7.87	0.02	9.71				50.44
Females	3,964	705	30,342	2,030,296	9,464	566	475,508	708,887		731,260	1,045	160	2,362	3,994,559
Percent	0.05	0.01	0.38	25.19	0.12	0.01	5.90	8.79		9.07	0.01	0.00*	0.03	49.56
Both Sexes	10,108	4,390	66,876	4,039,762	30,307	1,208	1,046,155	1,343,137	1,636	1,513,565	1,045	160	2,362	8,060,711
Percent	0.13	0.05	0.83	50.12	0.38	0.01	12.98	16.66	0.02	18.78	0.01	0.00*	0.03	100.00

^a Represented < 0.01%

Table 11. Daily sockeye salmon escapement counts, Kvichak River, 1991.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 22	42	42	0.00	0.00
23	30	72	0.00	0.00
24	0	72	0.00	0.00
25	60	132	0.00	0.00
26	594	726	0.01	0.02
27	2,844	3,570	0.07	0.08
28	45,960	49,530	1.09	1.17
29	75,210	124,740	1.78	2.95
30	152,598	277,338	3.61	6.57
July 1	310,830	588,168	7.36	13.93
2	312,918	901,086	7.41	21.34
3	354,504	1,255,590	8.40	29.73
4	325,824	1,581,414	7.72	37.45
5	343,572	1,924,986	8.14	45.59
6	215,718	2,140,704	5.11	50.69
7	66,822	2,207,526	1.58	52.28
8	69,090	2,276,616	1.64	53.91
9	77,946	2,354,562	1.85	55.76
10	278,598	2,633,160	6.60	62.36
11	446,826	3,079,986	10.58	72.94
12	379,860	3,459,846	9.00	81.93
13	179,508	3,639,354	4.25	86.18
14	83,712	3,723,066	1.98	88.17
15	97,656	3,820,722	2.31	90.48
16	86,838	3,907,560	2.06	92.54
17	89,874	3,997,434	2.13	94.66
18	64,428	4,061,862	1.53	96.19
19	53,070	4,114,932	1.26	97.45
20	30,270	4,145,202	0.72	98.16
21	24,432	4,169,634	0.58	98.74
22	26,520	4,196,154	0.63	99.37
23	26,634	4,222,788	0.63	100.00

Table 12. Age, sex, and size composition of sockeye salmon escapement, Kvichak River, 1991.

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 1: 22 June - 1 July												
Males				155,661	1,045		49,101	42,833		55,369		304,009
Percent				26.47	0.18		8.35	7.28		9.41		51.69
Sample Size				149	1		47	41		53		291
Mean Length				509	386		575	508		577		531
Std. Error				2			4	6		4		2
Sample Size				147	1		45	41		53		287
Females				131,632			45,967	34,475		71,040	1,045	284,159
Percent				22.38			7.82	5.86		12.08	0.18	48.31
Sample Size				126			44	33		68	1	272
Mean Length				494			564	502		558	507	522
Std. Error				2			5	6		3		2
Sample Size				124			43	33		65	1	266
Both Sexes				287,293	1,045		95,068	77,308		126,409	1,045	588,168
Percent				48.85	0.18		16.16	13.14		21.49	0.18	100.00
Sample Size				275	1		91	74		121	1	563
Mean Length				502	386		570	505		566	507	527
Std. Error				2			3	4		3		1
Sample Size				271	1		88	74		118	1	553

-Continued-

Table 12. (p 2 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 2: 2 - 4 July												
Males	1,986		311,879			47,676	85,419		119,190			566,150
Percent	0.20		31.40			4.80	8.60		12.00			57.00
Sample Size	1		157			24	43		60			285
Mean Length	307		502			577	525		576			527
Std. Error			3			7	5		5			2
Sample Size	1		154			23	41		58			277
Females		1,986	230,433			43,703	71,514		79,460			427,096
Percent		0.20	23.20			4.40	7.20		8.00			43.00
Sample Size		1	116			22	36		40			215
Mean Length		487	486			537	497		552			505
Std. Error			2			7	4		4			2
Sample Size		1	114			20	36		40			211
Both Sexes	1,986	1,986	542,312			91,379	156,933		198,650			993,246
Percent	0.20	0.20	54.60			9.20	15.80		20.00			100.00
Sample Size	1	1	273			46	79		100			500
Mean Length	307	487	495			558	513		566			517
Std. Error			2			5	3		3			1
Sample Size	1	1	268			43	77		98			488

-Continued-

Table 12. (p 3 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 3: 5 - 11 July												
Males			8,966	534,105	7,685		56,357	111,432	1,281	71,727		791,553
Percent			0.60	35.64	0.51		3.76	7.44	0.09	4.79		52.82
Sample Size			7	417	6		44	87	1	56		618
Mean Length			496	503	374		578	525	556	576		517
Std. Error			6	1	7		4	4		5		1
Sample Size			7	416	6		43	87	1	53		613
Females			5,123	507,210	1,281		32,021	119,117		42,267		707,019
Percent			0.34	33.85	0.09		2.14	7.95		2.82		47.18
Sample Size			4	396	1		25	93		33		552
Mean Length			543	484	383		551	494		541		492
Std. Error			7	1			7	3		5		1
Sample Size			4	396	1		23	92		28		544
Both Sexes			14,089	1,041,315	8,966		88,378	230,549	1,281	113,994		1,498,572
Percent			0.94	69.49	0.60		5.90	15.38	0.09	7.61		100.00
Sample Size			11	813	7		69	180	1	89		1,170
Mean Length			513	494	376		568	509	556	563		505
Std. Error			5	1	7		3	3		4		1
Sample Size			11	812	7		66	179	1	81		1,157

-Continued-

Table 12. (p 4 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 4: 12 - 14 July												
Males	1,404		9,829	202,191	5,616		26,678	60,377		40,719		346,814
Percent	0.22		1.53	31.44	0.87		4.15	9.39		6.33		53.93
Sample Size	1		7	144	4		19	43		29		247
Mean Length	400		520	498	374		588	513		582		516
Std. Error			20	3	17		8	6		5		2
Sample Size	1		6	142	4		18	41		28		240
Females			2,808	214,828	2,808		7,021	49,144		19,657		296,266
Percent			0.44	33.41	0.44		1.09	7.64		3.06		46.07
Sample Size			2	153	2		5	35		14		211
Mean Length			540	483	433		533	492		549		490
Std. Error			15	2			23	5		8		2
Sample Size			2	153	1		3	35		14		208
Both Sexes	1,404		12,637	417,019	8,424		33,699	109,521		60,376		643,080
Percent	0.22		1.97	64.85	1.31		5.24	17.03		9.39		100.00
Sample Size	1		9	297	6		24	78		43		458
Mean Length	400		524	490	393		577	503		571		504
Std. Error			16	2	17		8	4		4		1
Sample Size	1		8	295	5		21	76		42		448

-Continued-

Table 12. (p 5 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 5: 15 - 17 July												
Males	705		2,821	84,640	4,232		7,758	34,560		14,106		148,822
Percent	0.26		1.03	30.85	1.54		2.83	12.60		5.14		54.24
Sample Size	1		4	120	6		11	49		20		211
Mean Length	431		506	492	362		587	506		575		505
Std. Error			26	3	4		11	6		7		2
Sample Size	1		4	120	5		11	49		20		210
Females		705	2,821	71,237	1,411		8,464	28,918		11,990		125,546
Percent		0.26	1.03	25.96	0.51		3.08	10.54		4.37		45.76
Sample Size		1	4	101	2		12	41		17		178
Mean Length		305	538	487	381		551	497		544		498
Std. Error			17	3	24		12	4		7		2
Sample Size		1	4	101	2		10	41		16		175
Both Sexes	705	705	5,642	155,877	5,643		16,222	63,478		26,096		274,368
Percent	0.26	0.26	2.06	56.81	2.06		5.91	23.14		9.51		100.00
Sample Size	1	1	8	221	8		23	90		37		389
Mean Length	431	305	522	490	367		568	502		561		502
Std. Error			16	2	7		8	4		5		2
Sample Size	1	1	8	221	7		21	90		36		385

-Continued-

Table 12. (p 6 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
Sample Period 6: 18 - 23 July												
Males	2,265	1,699	2,265	55,487	2,265		3,964	18,119		3,964		90,028
Percent	1.01	0.75	1.01	24.62	1.01		1.76	8.04		1.76		39.95
Sample Size	4	3	4	98	4		7	32		7		159
Mean Length	447	321	525	484	369		561	495		551		487
Std. Error	14	14	8	3	11		13	7		14		3
Sample Size	4	3	4	97	4		5	32		7		156
Females	3,964		1,699	84,366	3,964	566	9,059	22,082		9,626		135,326
Percent	1.76		0.75	37.44	1.76	0.25	4.02	9.80		4.27		60.05
Sample Size	7		3	149	7	1	16	39		17		239
Mean Length	412		513	478	391	645	557	492		564		489
Std. Error	8		21	2	9		7	5		9		2
Sample Size	7		3	149	7	1	15	39		17		238
Both Sexes	6,229	1,699	3,964	139,853	6,229	566	13,023	40,201		13,590		225,354
Percent	2.76	0.75	1.76	62.06	2.76	0.25	5.78	17.84		6.03		100.00
Sample Size	11	3	7	247	11	1	23	71		24		398
Mean Length	424	321	520	481	383	645	558	493		560		488
Std. Error	7	14	10	2	7		6	4		7		1
Sample Size	11	3	7	246	11	1	20	71		24		394

-Continued-

Table 12. (p 7 of 7)

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.2	Total
All Periods Combined:												
Males	4,374	3,685	23,881	1,343,963	20,843		191,534	352,740	1,281	305,075		2,247,376
Percent	0.10	0.09	0.57	31.83	0.49		4.54	8.35	0.03	7.22		53.22
Sample Size	6	4	22	1,085	21		152	295	1	225		1,811
Mean Length	429	313	510	501	372		578	518	556	577		519
Std. Error	14	14	9	1	6		3	2		2		1
Sample Size	6	4	21	1,076	20		145	291	1	219		1,783
Females	3,964	705	14,437	1,239,706	9,464	566	146,235	325,250		234,040	1,045	1,975,412
Percent	0.09	0.02	0.34	29.36	0.22	0.01	3.46	7.70		5.54	0.02	46.78
Sample Size	7	1	14	1,041	12	1	124	277		189	1	1,667
Mean Length	412	305	530	485	401	645	550	495		552	507	499
Std. Error	8		7	1	9		3	2		2		1
Sample Size	7	1	14	1,037	11	1	114	276		180	1	1,642
Both Sexes	8,338	4,390	38,318	2,583,669	30,307	566	337,769	677,990	1,281	539,115	1,045	4,222,788
Percent	0.20	0.10	0.91	61.18	0.72	0.01	8.00	16.06	0.03	12.77	0.02	100.00
Sample Size	13	5	36	2,126	33	1	276	572	1	414	1	3,478
Mean Length	421	312	517	493	381	645	566	507	556	566	507	510
Std. Error	7	14	6	1	5		2	1		2		1
Sample Size	13	5	35	2,113	31	1	259	567	1	399	1	3,425

Table 13. Age and sex composition of sockeye salmon estimated catch and escapement, Branch River, 1991.

	Age Group								
	1.1	1.2	0.4	1.3	2.2	2.3	2.4	3.3	Total
<u>CATCH</u>									
Males		24,069	55	82,226	37,423	2,188			145,961
Percent		3.97	0.01	13.56	6.17	0.36			24.06
Females		30,997		93,539	55,309	2,974	14	202	183,035
Percent		5.11		15.42	9.12	0.49	0.00 ^a	0.03	30.17
Both Sexes		55,066	55	175,765	92,732	5,162	14	202	328,996
Percent		9.08	0.01	28.98	15.29	0.85	0.00 ^a	0.03	54.24
<u>ESCAPEMENT</u>									
Males	711	48,606		41,542	46,892	1,399			139,150
Percent	0.12	8.01		6.85	7.73	0.23			22.94
Females		48,606		41,542	46,891	1,400			138,439
Percent		8.01		6.85	7.73	0.23			22.82
Both Sexes	711	97,212		83,084	93,783	2,799			277,589
Percent	0.12	16.03		13.70	15.46	0.46			45.76
<u>CATCH AND ESCAPEMENT</u>									
Males	711	72,675	55	123,768	84,315	3,587			285,111
Percent	0.12	11.98	0.01	20.40	13.90	0.59			47.00
Females		79,603		135,081	102,200	4,374	14	202	321,474
Percent		13.12		22.27	16.85	0.72	0.00 ^a	0.03	53.00
Both Sexes	711	152,278	55	258,849	186,515	7,961	14	202	606,585
Percent	0.12	25.10	0.01	42.67	30.75	1.31	0.00 ^a	0.03	100.00

^a Represented < 0.01%

Table 14. Age and sex composition of sockeye salmon estimated catch and escapement, Naknek River, 1991.

	Age Group										
	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	3.3	Total
<u>CATCH</u>											
Males	1,266	53,056		1,073	2,283,482	234,388	4,059	331,729			2,909,053
Percent	0.01	0.53		0.01	22.90	2.35	0.04	3.33			29.18
Females	3,967	63,943			2,433,047	381,488	14,917	580,770	266	3,934	3,482,332
Percent	0.04	0.64			24.40	3.83	0.15	5.83	0.00*	0.04	34.93
Both Sexes	5,233	116,999		1,073	4,716,529	615,876	18,976	912,499	266	3,934	6,391,385
Percent	0.05	1.17		0.01	47.31	6.18	0.19	9.15	0.00*	0.04	64.11
<u>ESCAPEMENT</u>											
Males	2,390	107,146	3,695		1,153,650	293,694	14,632	212,062	871		1,788,140
Percent	0.02	1.07	0.04		11.57	2.95	0.15	2.13	0.01		17.94
Females	3,601	100,268			1,080,553	323,427	9,152	273,367			1,790,368
Percent	0.04	1.01			10.84	3.24	0.09	2.74			17.96
Both Sexes	5,991	207,414	3,695		2,234,203	617,121	23,784	485,429	871		3,578,508
Percent	0.06	2.08	0.04		22.41	6.19	0.24	4.87	0.01		35.89
<u>CATCH AND ESCAPEMENT</u>											
Males	3,656	160,202	3,695	1,073	3,437,132	528,082	18,691	543,791	871		4,697,193
Percent	0.04	1.61	0.04	0.01	34.48	5.30	0.19	5.45	0.01		47.11
Females	7,568	164,211			3,513,600	704,915	24,069	854,137	266	3,934	5,272,700
Percent	0.08	1.65			35.24	7.07	0.24	8.57	0.00*	0.04	52.89
Both Sexes	11,224	324,413	3,695	1,073	6,950,732	1,232,997	42,760	1,397,928	1,137	3,934	9,969,893
Percent	0.11	3.25	0.04	0.01	69.72	12.37	0.43	14.02	0.01	0.04	100.00

^a Represented < 0.01%

Table 15. Daily sockeye salmon escapement counts, Naknek River, 1991.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 23	588	588	0.02	0.02
24	792	1,380	0.02	0.04
25	96	1,476	0.00	0.04
26	104,316	105,792	2.92	2.96
27	102,576	208,368	2.87	5.82
28	113,226	321,594	3.16	8.99
29	326,316	647,910	9.12	18.11
30	504,216	1,152,126	14.09	32.20
July 1	669,858	1,821,984	18.72	50.91
2	517,218	2,339,202	14.45	65.37
3	295,194	2,634,396	8.25	73.62
4	244,176	2,878,572	6.82	80.44
5	30,366	2,908,938	0.85	81.29
6	8,274	2,917,212	0.23	81.52
7	8,220	2,925,432	0.23	81.75
8	12,132	2,937,564	0.34	82.09
9	132,282	3,069,846	3.70	85.79
10	73,836	3,143,682	2.06	87.85
11	25,224	3,168,906	0.70	88.55
12	25,398	3,194,304	0.71	89.26
13	16,050	3,210,354	0.45	89.71
14	39,258	3,249,612	1.10	90.81
15	151,968	3,401,580	4.25	95.06
16	18,012	3,419,592	0.50	95.56
17	28,032	3,447,624	0.78	96.34
18	27,102	3,474,726	0.76	97.10
19	10,920	3,485,646	0.31	97.41
20	26,256	3,511,902	0.73	98.14
21	41,844	3,553,746	1.17	99.31
22	24,762	3,578,508	0.69	100.00

Table 16. Age, sex, and size composition of sockeye salmon escapement,
Naknek River, 1991.

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1: 23 - 29 June									
Males	10,492			207,226	45,905	6,558	49,839		320,020
Percent	1.62			31.98	7.09	1.01	7.69		49.39
Sample Size	8			158	35	5	38		244
Mean Length	459			574	475	609	588		559
Std. Error	11			2	7	11	4		2
Sample Size	8			156	35	5	38		242
Females	10,492			205,915	53,774	1,312	56,397		327,890
Percent	1.62			31.78	8.30	0.20	8.70		50.61
Sample Size	8			157	41	1	43		250
Mean Length	462			550	480	613	569		540
Std. Error	14			2	7		4		2
Sample Size	8			154	41	1	43		247
Both Sexes	20,984			413,141	99,679	7,870	106,236		647,910
Percent	3.24			63.77	15.38	1.21	16.40		100.00
Sample Size	16			315	76	6	81		494
Mean Length	460			562	478	609	578		549
Std. Error	9			1	5	11	3		1
Sample Size	16			310	76	6	81		489

-Continued-

Table 16. (p 2 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 2: 30 June - 1 July									
Males	2,119	16,954		468,358	33,908	4,239	101,725		627,303
Percent	0.18	1.44		39.89	2.89	0.36	8.66		53.43
Sample Size	1	8		221	16	2	48		296
Mean Length	583	455		578	486	601	583		571
Std. Error		11		2	11	11	3		2
Sample Size	1	8		220	16	2	48		295
Females	2,119	6,358		379,349	42,385	6,358	110,202		546,771
Percent	0.18	0.54		32.31	3.61	0.54	9.39		46.57
Sample Size	1	3		179	20	3	52		258
Mean Length	523	506		558	485	571	561		553
Std. Error		30		2	7	8	3		2
Sample Size	1	3		178	20	3	52		257
Both Sexes	4,238	23,312		847,707	76,293	10,597	211,927		1,174,074
Percent	0.36	1.99		72.20	6.50	0.90	18.05		100.00
Sample Size	2	11		400	36	5	100		554
Mean Length	553	469		569	486	583	571		562
Std. Error		12		1	6	6	2		1
Sample Size	2	11		398	36	5	100		552

-Continued-

Table 16. (p 3 of 6)

		Age Group								
		0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3: 2 - 4 July										
Males			26,674		354,172	78,540	2,964	44,457		506,807
Percent			2.52		33.52	7.43	0.28	4.21		47.97
Sample Size			18		239	53	2	30		342
Mean Length			465		574	486	593	582		555
Std. Error			10		2	6	19	5		2
Sample Size			18		232	53	2	28		333
Females	1,482		17,783		377,881	65,203	1,482	85,950		549,781
Percent	0.14		1.68		35.76	6.17	0.14	8.13		52.03
Sample Size	1		12		255	44	1	58		371
Mean Length	519		505		551	498	590	558		544
Std. Error			14		1	4		3		1
Sample Size	1		12		249	44	1	57		364
Both Sexes	1,482		44,457		732,053	143,743	4,446	130,407		1,056,588
Percent	0.14		4.21		69.28	13.60	0.42	12.34		100.00
Sample Size	1		30		494	97	3	88		713
Mean Length	519		481		562	491	592	566		549
Std. Error			8		1	4	19	3		1
Sample Size	1		30		481	97	3	85		697

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Table 16. (p 4 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 4: 5 - 9 July									
Males	271	17,315	1,082	36,794	43,016		2,976		101,454
Percent	0.14	9.05	0.57	19.24	22.49		1.56		53.04
Sample Size	1	64	4	136	159		11		375
Mean Length	561	445	348	583	451		590		501
Std. Error		5	10	3	2		12		2
Sample Size	1	62	4	135	159		10		371
Females		11,633		38,147	34,900		5,140		89,820
Percent		6.08		19.94	18.25		2.69		46.96
Sample Size		43		141	129		19		332
Mean Length		464		541	477		553		507
Std. Error		4		2	2		6		1
Sample Size		43		130	129		19		321
Both Sexes	271	28,948	1,082	74,941	77,916		8,116		191,274
Percent	0.14	15.13	0.57	39.18	40.74		4.24		100.00
Sample Size	1	107	4	277	288		30		707
Mean Length	561	453	348	562	462		566		504
Std. Error		3	10	2	2		6		1
Sample Size	1	105	4	265	288		29		692

-Continued-

Table 16. (p 5 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 5: 10 - 22 July									
Males	35,711	2,613	87,100	92,325	871	13,065	871		232,556
Percent	7.02	0.51	17.12	18.15	0.17	2.57	0.17		45.72
Sample Size	41	3	100	106	1	15	1		267
Mean Length	438	325	585	454	601	595	615		508
Std. Error	5	5	3	3		5			2
Sample Size	41	3	95	105	1	15	1		261
Females	54,002		79,261	127,165		15,678			276,106
Percent	10.62		15.58	25.00		3.08			54.28
Sample Size	62		91	146		18			317
Mean Length	459		536	471		537			491
Std. Error	4		3	3		8			2
Sample Size	61		78	145		18			302
Both Sexes	89,713	2,613	166,361	219,490	871	28,743	871		508,662
Percent	17.64	0.51	32.71	43.15	0.17	5.65	0.17		100.00
Sample Size	103	3	191	252	1	33	1		584
Mean Length	451	325	562	464	601	563	615		499
Std. Error	3	5	2	2		5			1
Sample Size	102	3	173	250	1	33	1		563

-Continued-

Table 16. (p 6 of 6)

	Age Group								
	0.3	1.2	2.1	1.3	2.2	1.4	2.3	2.4	Total
All Periods Combined:									
Males	2,390	107,146	3,695	1,153,650	293,694	14,632	212,062	871	1,788,140
Percent	0.07	2.99	0.10	32.24	8.21	0.41	5.93	0.02	49.97
Sample Size	2	139	7	854	369	10	142	1	1,524
Mean Length	581	451	332	577	469	603	585	615	552
Std. Error		4	5	1	3	7	2		1
Sample Size	2	137	7	838	368	10	139	1	1,502
Females	3,601	100,268		1,080,553	323,427	9,152	273,367		1,790,368
Percent	0.10	2.80		30.20	9.04	0.26	7.64		50.03
Sample Size	2	128		823	380	5	190		1,528
Mean Length	521	471		552	481	580	560		536
Std. Error		4		1	2	8	2		1
Sample Size	2	127		789	379	5	189		1,491
Both Sexes	5,991	207,414	3,695	2,234,203	617,121	23,784	485,429	871	3,578,508
Percent	0.17	5.80	0.10	62.43	17.25	0.66	13.57	0.02	100.00
Sample Size	4	267	7	1,677	749	15	332	1	3,052
Mean Length	545	461	332	565	475	594	571	615	544
Std. Error		3	5	1	2	6	1		1
Sample Size	4	264	7	1,627	747	15	328	1	2,993

Table 17. Age, sex, and size composition of chinook salmon catch in Naknek-Kvichak District, 1991.

	Age Group		
	1.2	1.3	Total
All Periods Combined			
Males	1,760	252	2,012
Percent ^a	38.87	5.57	44.43
Sample Size	7	1	8
Mean Length	559	783	587
Std. Error	15		13
Sample Size	7	1	8
Females	2,264	252	2,516
Percent ^a	50.00	5.57	55.57
Sample Size	9	1	10
Mean Length	553	545	552
Std. Error	26		24
Sample Size	9	1	10
Both Sexes	4,024	504	4,528
Percent ^a	88.87	11.13	100.00
Sample Size	16	2	18
Mean Length	556	664	568
Std. Error	16		14
Sample Size	16	2	18

^a Based on a sample size of 18 and given these estimated age proportions, this sample would estimate true age composition within 20 percentage points 70% of the time.

Table 18. Age, sex, and size composition of chinook salmon,
Naknek River Drainage, 1991.^a

	Age Group				
	1.2	1.3	1.4	1.5	Total
<hr/>					
Lower Naknek River Sport Harvest					
	<u>Male</u>				
Percent	17.96	20.34	17.24	1.19	55.73
Sample Size	50	49	33	1	150
Mean Length	470	701	880	960	652
Std. Error	10	25	16		17
Sample Size	50	49	33	1	150
Mean Weight	1.90	7.16	12.34	15.00	6.29
Std. Error	0.13	0.66	0.70		0.43
Sample Size	50	49	33	1	150
	<u>Female</u>				
Percent		20.45	23.12	0.70	44.27
Sample Size		43	51	2	107
Mean Length		783	864	842	830
Std. Error		16	8	13	9
Sample Size		43	51	2	107
Mean Weight		8.13	10.51	9.75	9.50
Std. Error		0.45	0.41	0.75	0.31
Sample Size		43	51	2	107
	<u>All Fish</u>				
Percent	17.96	40.79	40.36	0.89	100.00
Sample Size	50	92	86	3	260
Mean Length	470	739	870	881	727
Std. Error	10	16	8	40	12
Sample Size	50	92	86	3	260
Mean Weight	1.90	7.62	11.23	11.50	7.66
Std. Error	0.13	0.41	0.37	1.80	0.30
Sample Size	50	92	86	3	260

-Continued-

Table 18. (p 2 of 2)

	Age Group				
	1.2	1.3	1.4	1.5	Total
<hr/>					
Big Creek Escapement					
	<u>Male</u>				
Percent	3.7	16.3	37.8	1.5	59.3
Sample Size	5	22	51	2	93
Mean Length	530	742	847	927	802
Std. Error	32	21	11	18	12
Sample Size	5	22	51	2	93
	<u>Female</u>				
Percent	0.7	5.9	31.1	3.0	40.7
Sample Size	1	8	42	4	65
Mean Length	803	806	823	876	823
Std. Error		16	8	7	6
Sample Size	1	8	42	4	65
	<u>All Fish</u>				
Percent	4.4	22.2	68.9	4.4	100.0
Sample Size	6	30	93	6	158
Mean Length	575	759	836	893	811
Std. Error	53	16	7	13	8
Sample Size	6	30	93	6	158

^a Sport Fish Division creel census data (Coggins 1992).

Table 19. Age, sex, and size composition of coho salmon sport harvest, lower Naknek River, 1991.^a

	Age Group					
	1.1	1.2	2.1	2.2	3.1	Total
<u>Males</u>						
Percent	7.58	1.06	45.22	0.65	2.50	57.01
Sample Size	35	4	222	3	12	318
Mean Length	558	563	586	568	606	584
Std. Error	9	37	3	26	11	3
Sample Size	35	4	222	3	12	318
Mean Weight	3.25	3.57	3.75	3.73	3.92	3.70
Std. Error	0.16	0.65	0.06	0.23	0.28	0.05
Sample Size	35	4	222	3	12	318
<u>Females</u>						
Percent	34.90	0.09	37.80	0.58	1.00	42.99
Sample Size	17	1	185	2	5	260
Mean Length	552	540	581	587	597	577
Std. Error	12		3	5	13	2
Sample Size	17	1	185	2	5	260
Mean Weight	2.85	2.50	3.36	3.40	3.34	3.30
Std. Error	0.18		0.05	0.40	0.28	0.04
Sample Size	17	1	185	2	5	260
<u>All Fish</u>						
Percent	11.06	1.15	83.05	1.22	3.51	100.00
Sample Size	52	5	407	5	17	578
Mean Length	556	559	584	576	604	581
Std. Error	7	29	2	15	8	2
Sample Size	52	5	407	5	17	578
Mean Weight	3.12	3.36	3.57	3.60	3.75	3.52
Std. Error	0.12	0.55	0.04	0.20	0.28	0.03
Sample Size	52	5	407	5	17	578

^a Sport Fish Division creel census data (Coggins 1992).

Table 20. Commercial salmon catch by period and species, Egegik District, 1991.

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
6/10	15	7	6	1	0	0	14
6/11	24	46	12	0	0	0	58
6/12	24	110	10	6	0	0	126
6/13	24	390	9	15	0	0	414
6/14	9	152	4	3	0	0	159
6/17 ^b	0	50	0	0	0	0	50
6/18 ^b	0	17	0	0	0	0	17
6/19 ^b	0	356	10	0	0	0	366
6/20 ^b	0	143	0	0	0	0	143
6/21	11	20,506	16	321	0	0	20,843
6/22 ^b	0	37	1	0	0	0	38
6/24 ^b	0	2,867	2	20	0	0	2,889
6/25 ^b	0	2,165	2	21	0	0	2,188
6/26 ^b	0	2,730	2	23	0	0	2,755
6/27 ^b	0	3,747	1	4	0	0	3,752
6/28 ^b	0	2,424	0	41	0	0	2,465
6/29 ^b	0	10,031	0	137	0	0	10,168
6/30	10.5	250,066	27	1,651	0	0	251,744
7/01	24	806,668	29	4,913	0	0	811,610
7/02	10	527,421	26	2,512	0	0	529,959
7/03	24	658,486	39	4,409	0	0	662,934
7/04	10	522,159	13	3,583	0	0	525,755
7/05	16	558,555	40	3,812	0	0	562,407
7/06	5	96,867	8	1,642	0	0	98,517
7/07	5	364,209	29	2,098	0	0	366,336
7/08	11	482,004	35	4,193	0	0	486,232
7/09	16.5	481,426	8	3,734	0	0	485,168
7/10	8.5	311,095	16	3,305	0	0	314,415
7/11	20	532,603	17	6,174	0	0	538,794
7/12	13.5	226,834	10	2,858	0	0	229,702
7/13	10.5	165,859	10	1,972	0	0	167,841
7/14	22.5	197,498	17	2,068	0	0	199,583
7/15	9	95,798	8	1,163	0	0	96,969
7/16	13	113,229	3	3,119	0	0	116,351
7/17	20	44,986	6	1,473	0	0	46,465
7/18	24	62,922	6	1,873	0	0	64,801
7/19	24	63,840	1	2,158	1	0	66,000
7/20	24	43,597	4	1,818	0	7	45,426
7/21	24	44,321	2	1,584	3	18	45,928
7/22	24	32,259	7	1,097	4	15	33,382
7/23	24	26,758	7	506	0	12	27,283

-Continued-

Table 20. (p 2 of 2)

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
7/24	24	17,057	4	497	0	46	17,604
7/25	24	9,933	3	206	113	245	10,500
7/26	9	1,948	4	230	0	96	2,278
7/29	15	3,672	1	808	0	720	5,201
7/30	24	5,869	2	1,712	0	1,413	8,996
7/31	24	2,451	0	386	0	966	3,803
8/01	24	1,174	1	336	0	929	2,440
8/02	9	445	0	152	0	273	870
8/05	15	721	1	354	0	1,779	2,855
8/06	24	670	2	416	0	1,765	2,853
8/07	24	349	0	252	0	1,395	1,996
8/08	24	190	1	197	0	1,615	2,003
8/09	9	76	0	78	0	411	565
8/12	15	240	1	408	0	4,139	4,788
8/13	24	272	0	342	0	3,277	3,891
8/14	24	75	0	157	0	2,272	2,504
8/15	24	106	0	138	0	2,122	2,366
8/16	9	39	0	35	0	488	562
8/19	15	103	0	104	0	5,554	5,761
8/20	24	48	0	66	0	3,662	3,776
8/21	24	63	0	57	0	3,630	3,750
8/22	24	25	2	31	0	3,152	3,210
8/23	9	3	0	5	0	725	733
8/26	15	11	1	11	0	2,078	2,101
8/27	24	15	0	15	0	1,347	1,377
8/28	24	0	0	11	0	1,171	1,182
8/29	24	4	0	1	0	831	836
8/30	9	1	0	1	0	334	336
<hr/>							
Total	1,027	6,800,798	465	71,313	121	46,487	6,919,184
Percent		98.3	0.0 ^c	1.0	0.0 ^c	0.7	100.0

^a See Table 2 for emergency order fishing periods.

^b ADF&G test fish catch

^c Represented < 0.1%

Table 21. Age and sex composition of sockeye salmon catch and escapement, Egegik District, 1991.

	Age Group												Total
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	
<u>CATCH</u>													
Males	84		6,055	334,931	2,893	1,373,792	1,069,616	7,346	441,534	469	6,230	13,356	3,256,306
Percent	0.00 ^a		0.06	3.49	0.03	14.33	11.16	0.08	4.61	0.00 ^a	0.06	0.14	33.96
Females	84		2,334	291,536	1,920	1,344,657	1,375,720	1,164	498,568	5,426	4,940	18,143	3,544,492
Percent	0.00 ^a		0.02	3.04	0.02	14.02	14.35	0.01	5.20	0.06	0.05	0.19	36.97
Both Sexes	168		8,389	626,467	4,813	2,718,449	2,445,336	8,510	940,102	5,895	11,170	31,499	6,800,798
Percent	0.00 ^a		0.09	6.53	0.05	28.35	25.50	0.09	9.81	0.06	0.12	0.33	70.93
<u>ESCAPEMENT^b</u>													
Males		1,127		113,522	40,513	406,479	569,286	532	123,562	368	1,432	4,885	1,261,706
Percent		0.01		1.18	0.42	4.24	5.94	0.01	1.29	0.00 ^a	0.01	0.05	13.16
Females			532	116,651	18,451	461,653	772,705		153,022	1,127		1,033	1,525,174
Percent			0.01	1.22	0.19	4.82	8.06		1.60	0.01		0.01	15.91
Both Sexes		1,127	532	230,173	58,964	868,132	1,341,991	532	276,584	1,495	1,432	5,918	2,786,880
Percent		0.01	0.01	2.40	0.61	9.05	14.00	0.01	2.88	0.02	0.01	0.06	29.07
<u>CATCH AND ESCAPEMENT</u>													
Males	84	1,127	6,055	448,453	43,406	1,780,271	1,638,902	7,878	565,096	837	7,662	18,241	4,518,012
Percent	0.00 ^a	0.01	0.06	4.68	0.45	18.57	17.09	0.08	5.89	0.01	0.08	0.19	47.12
Females	84		2,866	408,187	20,371	1,806,310	2,148,425	1,164	651,590	6,553	4,940	19,176	5,069,666
Percent	0.00 ^a		0.03	4.26	0.21	18.84	22.41	0.01	6.80	0.07	0.05	0.20	52.88
Both Sexes	168	1,127	8,921	856,640	63,777	3,586,581	3,787,327	9,042	1,216,686	7,390	12,602	37,417	9,587,678
Percent	0.00 ^a	0.01	0.09	8.93	0.67	37.41	39.50	0.09	12.69	0.08	0.13	0.39	100.00

^a Represented < 0.01%

^b An additional 45 sockeye salmon were counted in King Salmon River tributaries but were not sampled, bringing the Egegik District escapement total to 2,786,925.

Table 22. Age, sex, and size composition of sockeye salmon commercial catch,
Egegik District, 1991.

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 1: 10 - 29 June												
Males	84	502	6,360		5,942	9,457		2,092				24,437
Percent	0.18	1.10	13.89		12.98	20.66		4.57				53.38
Sample Size	1	6	76		71	113		25				292
Mean Length	503	546	503		560	509		582				527
Std. Error		12	3		3	2		5				1
Sample Size	1	6	76		71	112		25				291
Females	84	418	3,348		9,373	5,942		2,092			84	21,341
Percent	0.18	0.91	7.31		20.47	12.98		4.57			0.18	46.62
Sample Size	1	5	40		112	71		25			1	255
Mean Length	498	537	496		543	504		555			565	526
Std. Error		2	4		2	2		6				1
Sample Size	1	5	40		112	71		25			1	255
Both Sexes	168	920	9,708		15,315	15,399		4,184			84	45,778
Percent	0.37	2.01	21.21		33.45	33.64		9.14			0.18	100.00
Sample Size	2	11	116		183	184		50			1	547
Mean Length	501	542	501		549	507		568			565	526
Std. Error		7	2		2	2		4				1
Sample Size	2	11	116		183	183		50			1	546

-Continued-

Table 22. (p 2 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 2: 30 June												
Males			18,298		55,361	50,201		10,322	469		469	135,120
Percent			7.32		22.14	20.08		4.13	0.19		0.19	54.03
Sample Size			39		118	107		22	1		1	288
Mean Length			518		573	522		578	538		588	547
Std. Error			4		2	2		6				1
Sample Size			39		118	106		22	1		1	287
Females		469	11,260		50,670	33,311		19,236				114,946
Percent		0.19	4.50		20.26	13.32		7.69				45.97
Sample Size		1	24		108	71		41				245
Mean Length		560	518		552	513		562				539
Std. Error			6		2	3		4				1
Sample Size		1	24		108	69		41				243
Both Sexes		469	29,558		106,031	83,512		29,558	469		469	250,066
Percent		0.19	11.82		42.40	33.40		11.82	0.19		0.19	100.00
Sample Size		1	63		226	178		63	1		1	533
Mean Length		560	518		563	519		567	538		588	543
Std. Error			3		1	2		3				1
Sample Size		1	63		226	175		63	1		1	530

-Continued-

Table 22. (p 3 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 3: 1 - 2 July												
Males	3,146	56,636			371,280	149,456	1,573	92,820		3,146	4,720	682,777
Percent	0.24	4.25			27.83	11.20	0.12	6.96		0.24	0.35	51.18
Sample Size	2	36			236	95	1	59		2	3	434
Mean Length	529	509			578	528	547	581		611	598	562
Std. Error	51	4			2	3		4		11	6	1
Sample Size	2	36			236	94	1	59		2	3	433
Mean Weight					3.23	2.34		3.34				3.03
Std. Error					0.11			0.15				0.07
Sample Size					15	1		7				23
Females		26,745			385,438	113,272		119,565	1,573	1,573	3,146	651,312
Percent		2.00			28.89	8.49		8.96	0.12	0.12	0.24	48.82
Sample Size		17			245	72		76	1	1	2	414
Mean Length		495			558	509		563	534	569	579	548
Std. Error		5			1	3		3			10	1
Sample Size		17			245	72		76	1	1	2	414
Mean Weight					2.92	2.02		2.94				2.76
Std. Error					0.10			0.19				0.07
Sample Size					16	1		6				23
Both Sexes	3,146	83,381			756,718	262,728	1,573	212,385	1,573	4,719	7,866	1,334,089
Percent	0.24	6.25			56.72	19.69	0.12	15.92	0.12	0.35	0.59	100.00
Sample Size	2	53			481	167	1	135	1	3	5	848
Mean Length	529	504			568	520	547	571	534	597	590	555
Std. Error	51	3			1	2		2		11	5	1
Sample Size	2	53			481	166	1	135	1	3	5	847
Mean Weight					3.07	2.20		3.11				2.89
Std. Error					0.07			0.12				0.05
Sample Size					31	2		13				46

-Continued-

Table 22. (p 4 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 4: 3 - 7 July												
Males	1,447	107,048	2,893	360,203	387,688	2,893	125,854				1,447	989,473
Percent	0.07	4.87	0.13	16.37	17.62	0.13	5.72				0.07	44.97
Sample Size	1	74	2	249	268	2	87				1	684
Mean Length	581	507	389	573	521	564	572				541	545
Std. Error		4	3	2	2	42	4					1
Sample Size	1	74	2	248	265	2	85				1	678
Mean Weight		2.30		3.27	2.56		3.16					2.87
Std. Error		0.31		0.10	0.09		0.07					0.06
Sample Size		3		18	7		4					32
Females	1,447	91,136		368,883	595,997		141,767	2,893	1,447	7,233	1,210,803	
Percent	0.07	4.14		16.77	27.09		6.44	0.13	0.07	0.33	55.03	
Sample Size	1	63		255	412		98	2	1	5	837	
Mean Length	533	498		547	500		546	490	517	536	520	
Std. Error		4		2	1		3	15		9	1	
Sample Size	1	63		255	412		96	2	1	5	835	
Mean Weight		1.65		2.56	2.03		2.62				2.23	
Std. Error		0.15		0.08	0.07		0.11				0.05	
Sample Size		5		20	20		12				57	
Both Sexes	2,894	198,184	2,893	729,086	983,685	2,893	267,621	2,893	1,447	8,680	2,200,276	
Percent	0.13	9.01	0.13	33.14	44.71	0.13	12.16	0.13	0.07	0.39	100.00	
Sample Size	2	137	2	504	680	2	185	2	1	6	1,521	
Mean Length	557	503	389	560	508	564	558	490	517	537	531	
Std. Error		3	3	1	1	42	2	15		9	1	
Sample Size	2	137	2	503	677	2	181	2	1	6	1,513	
Mean Weight		2.00		2.91	2.24		2.87				2.52	
Std. Error		0.18		0.07	0.06		0.07				0.04	
Sample Size		8		38	27		16				89	

-Continued-

Table 22. (p 5 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 5: 8 - 9 July												
Males		58,500			197,441	162,704		56,672				475,317
Percent		6.07			20.49	16.89		5.88				49.34
Sample Size		32			108	89		31				260
Mean Length		522			577	528		579				554
Std. Error		5			3	2		7				2
Sample Size		32			108	88		31				259
Mean Weight		2.34			3.48	2.44		3.22				2.95
Std. Error		0.18			0.12	0.08		0.25				0.07
Sample Size		7			22	21		11				61
Females		43,875			199,268	162,704		82,266				488,113
Percent		4.55			20.68	16.89		8.54				50.66
Sample Size		24			109	89		45				267
Mean Length		506			552	511		555				535
Std. Error		5			2	3		4				1
Sample Size		23			109	89		45				266
Mean Weight		2.10			2.80	2.08		2.81				2.50
Std. Error		0.09			0.09	0.05		0.14				0.05
Sample Size		9			24	28		15				76
Both Sexes		102,375			396,709	325,408		138,938				963,430
Percent		10.63			41.18	33.78		14.42				100.00
Sample Size		56			217	178		76				527
Mean Length		515			564	519		565				544
Std. Error		3			2	2		3				1
Sample Size		55			217	177		76				525
Mean Weight		2.24			3.14	2.26		2.98				2.72
Std. Error		0.11			0.08	0.05		0.13				0.04
Sample Size		16			46	49		26				137

-Continued-

Table 22. (p 6 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 6: 10 - 11 July												
Males		53,531			167,576	137,319		55,859		1,164		415,449
Percent		6.34			19.86	16.28		6.62		0.14		49.24
Sample Size		46			144	118		48		1		357
Mean Length		516			566	529		571		646		548
Std. Error		4			3	3		5				2
Sample Size		43			143	115		47		1		349
Mean Weight		2.31			3.57	2.33		3.86				3.04
Std. Error					0.11	0.10						0.06
Sample Size		2			6	14		1				23
Females		54,695			136,155	196,668	1,164	39,567				428,249
Percent		6.48			16.14	23.31	0.14	4.69				50.76
Sample Size		47			117	169	1	34				368
Mean Length		515			542	509	570	533				523
Std. Error		4			3	2		5				2
Sample Size		47			114	169	1	33				364
Mean Weight		2.65			2.60	1.86		2.49				2.26
Std. Error		0.60			0.08	0.17		0.06				0.11
Sample Size		2			10	3		5				20
Both Sexes		108,226			303,731	333,987	1,164	95,426		1,164		843,698
Percent		12.83			36.00	39.59	0.14	11.31		0.14		100.00
Sample Size		93			261	287	1	82		1		725
Mean Length		516			555	517	570	555		646		535
Std. Error		3			2	2		4				1
Sample Size		90			257	284	1	80		1		713
Mean Weight		2.48			3.14	2.05		3.29				2.64
Std. Error		0.60			0.07	0.11		0.06				0.06
Sample Size		4			16	17		6				43

-Continued-

Table 22. (p 7 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Sample Period 7: 12 July - 30 August												
Males	960	34,558			215,989	172,791	2,880	97,915		1,920	6,720	533,733
Percent	0.08	2.97			18.56	14.85	0.25	8.42		0.17	0.58	45.87
Sample Size	1	36			225	180	3	102		2	7	556
Mean Length	602	521			572	525	587	573		596	571	554
Std. Error		4			2	2	36	3		22	9	1
Sample Size	1	36			224	178	3	102		2	7	553
Mean Weight		2.19			3.07	2.49	2.83	2.89				2.79
Std. Error		0.46			0.20	0.13	0.90	0.15				0.10
Sample Size		2			14	14	2	5				37
Females		60,477	1,920	194,870	267,826		94,075	960	1,920	7,680	629,728	
Percent		5.20	0.17	16.75	23.02		8.09	0.08	0.17	0.66	54.13	
Sample Size		63	2	203	279		98	1	2	8	656	
Mean Length		501	358	547	500		549	529	494	546	522	
Std. Error		3	6	2	1		3		76	8	1	
Sample Size		63	2	202	279		96	1	2	8	653	
Mean Weight		1.95		2.74	2.02		2.51		2.22		2.31	
Std. Error		0.16		0.11	0.13		0.27		0.59		0.08	
Sample Size		6		21	15		6		2		50	
Both Sexes	960	95,035	1,920	410,859	440,617	2,880	191,990	960	3,840	14,400	1,163,461	
Percent	0.08	8.17	0.17	35.31	37.87	0.25	16.50	0.08	0.33	1.24	100.00	
Sample Size	1	99	2	428	459	3	200	1	4	15	1,212	
Mean Length	602	508	358	560	510	587	561	529	545	558	537	
Std. Error		2	6	1	1	36	2		40	6	1	
Sample Size	1	99	2	426	457	3	198	1	4	15	1,206	
Mean Weight		2.04		2.91	2.20	2.83	2.70		2.22		2.53	
Std. Error		0.20		0.12	0.09	0.90	0.15		0.59		0.06	
Sample Size		8		35	29	2	11		2		87	

-Continued-

Table 22. (p 8 of 8)

	Age Group											
	0.2	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
All Periods Combined:												
Males	84	6,055	334,931	2,893	1,373,792	1,069,616	7,346	441,534	469	6,230	13,356	3,256,306
Percent	0.00 ^a	0.09	4.92	0.04	20.20	15.73	0.11	6.49	0.01	0.09	0.20	47.88
Sample Size	1	10	339	2	1,151	970	6	374	1	5	12	2,871
Mean Length	503	554	513	389	574	525	569	575	538	613	578	552
Std. Error		44	2	3	1	1	27	2		11	6	1
Sample Size	1	10	336	2	1,148	958	6	371	1	5	12	2,850
Mean Weight			2.30		3.30	2.46	2.83	3.24				2.92
Std. Error			0.19		0.06	0.05	0.90	0.07				0.03
Sample Size			14		75	57	2	28				176
Females	84	2,334	291,536	1,920	1,344,657	1,375,720	1,164	498,568	5,426	4,940	18,143	3,544,492
Percent	0.00 ^a	0.03	4.29	0.03	19.77	20.23	0.02	7.33	0.08	0.07	0.27	52.12
Sample Size	1	7	278	2	1,149	1,163	1	417	4	4	16	3,042
Mean Length	498	539	503	358	551	504	570	552	509	525	548	528
Std. Error		2	2	6	1	1		1	15	76	5	0
Sample Size	1	7	277	2	1,145	1,161	1	412	4	4	16	3,030
Mean Weight			2.02		2.74	2.01		2.70		2.22		2.39
Std. Error			0.15		0.05	0.05		0.08		0.59		0.03
Sample Size			22		91	67		44		2		226
Both Sexes	168	8,389	626,467	4,813	2,718,449	2,445,336	8,510	940,102	5,895	11,170	31,499	6,800,798
Percent	0.00 ^a	0.12	9.21	0.07	39.97	35.96	0.13	13.82	0.09	0.16	0.46	100.00
Sample Size	2	17	617	4	2,300	2,133	7	791	5	9	28	5,913
Mean Length	501	550	509	376	562	513	569	563	512	574	561	539
Std. Error		39	1	3	1	1	27	1	15	22	4	0
Sample Size	2	17	613	4	2,293	2,119	7	783	5	9	28	5,880
Mean Weight			2.16		3.02	2.20	2.83	2.95		2.22		2.64
Std. Error			0.12		0.04	0.04	0.90	0.06		0.59		0.02
Sample Size			36		166	124	2	72		2		402

^a Represents < 0.01%

Table 23. Daily sockeye salmon escapement counts, Egegik River, 1991.

Date	Daily Count ^a	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 23	2,142	2,142	0.08	0.08
24	7,452	9,594	0.27	0.34
25	1,728	11,322	0.06	0.41
26	24,210	35,532	0.87	1.27
27	10,974	46,506	0.39	1.67
28	16,866	63,372	0.61	2.27
29	23,352	86,724	0.84	3.11
30	47,358	134,082	1.70	4.81
July 1	115,764	249,846	4.15	8.97
2	156,450	406,296	5.61	14.58
3	300,438	706,734	10.78	25.36
4	305,238	1,011,972	10.95	36.31
5	326,586	1,338,558	11.72	48.03
6	345,588	1,684,146	12.40	60.43
7	343,284	2,027,430	12.32	72.75
8	142,194	2,169,624	5.10	77.85
9	68,844	2,238,468	2.47	80.32
10	37,368	2,275,836	1.34	81.66
11	45,756	2,321,592	1.64	83.30
12	85,896	2,407,488	3.08	86.39
13	54,942	2,462,430	1.97	88.36
14	151,068	2,613,498	5.42	93.78
15	96,612	2,710,110	3.47	97.25
16	12,366	2,722,476	0.44	97.69
17	8,688	2,731,164	0.31	98.00
18	10,326	2,741,490	0.37	98.37
19	11,118	2,752,608	0.40	98.77
20	11,358	2,763,966	0.41	99.18
21	10,488	2,774,454	0.38	99.55
22	12,426	2,786,880	0.45	100.00

^a An additional 45 sockeye salmon were counted in King Salmon River, bringing the Egegik District escapement total to 2,786,925.

Table 24. Age, sex, and size composition of sockeye salmon escapement, Egegik River, 1991.

	Age Group											
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total ^a
Sample Period 1: 23 June - 2 July												
Males		18,401	4,784	58,883		113,351		26,498	368	368		222,653
Percent		4.53	1.18	14.49		27.90		6.52	0.09	0.09		54.80
Sample Size		50	13	160		308		72	1	1		605
Mean Length		499	340	580		513		588	539	593		535
Std. Error		5	7	2		2		3				1
Sample Size		50	12	159		307		72	1	1		602
Females		8,096	1,472	49,683		99,367		24,289			736	183,643
Percent		1.99	0.36	12.23		24.46		5.98			0.18	45.20
Sample Size		22	4	135		270		66			2	499
Mean Length		481	352	555		495		558			580	518
Std. Error		9	7	2		2		4			9	1
Sample Size		22	4	134		270		65			2	497
Both Sexes		26,497	6,256	108,566		212,718		50,787	368	368	736	406,296
Percent		6.52	1.54	26.72		52.36		12.50	0.09	0.09	0.18	100.00
Sample Size		72	17	295		578		138	1	1	2	1,104
Mean Length		493	343	568		505		574	539	593	580	527
Std. Error		5	6	1		1		3			9	1
Sample Size		72	16	293		577		137	1	1	2	1,099

-Continued-

Table 24. (p 2 of 6)

	Age Group										Total*	
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4		3.3
Sample Period 2: 3 - 5 July												
Males		25,077	10,326	148,985		202,088		41,303			1,475	429,254
Percent		2.69	1.11	15.98		21.68		4.43			0.16	46.04
Sample Size		17	7	101		137		28			1	291
Mean Length		493	345	580		510		594			613	538
Std. Error		9	7	3		3		5				2
Sample Size		17	6	100		136		28			1	288
Females		29,502	7,375	175,537		240,441		50,153				503,008
Percent		3.16	0.79	18.83		25.79		5.38				53.96
Sample Size		20	5	119		163		34				341
Mean Length		487	371	556		496		567				521
Std. Error		9	28	2		2		4				2
Sample Size		20	5	116		163		32				336
Both Sexes		54,579	17,701	324,522		442,529		91,456			1,475	932,262
Percent		5.85	1.90	34.81		47.47		9.81			0.16	100.00
Sample Size		37	12	220		300		62			1	632
Mean Length		489	356	567		502		579			613	529
Std. Error		6	12	2		2		3				1
Sample Size		37	11	216		299		60			1	624

-Continued-

Table 24. (p 3 of 6)

	Age Group											
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total ^a
Sample Period 3: 6 - 8 July												
Males		33,345	6,413	132,098		161,596		42,323			1,283	377,058
Percent		4.01	0.77	15.90		19.44		5.09			0.15	45.37
Sample Size		26	5	103		126		33			1	294
Mean Length		512	377	586		518		590			571	547
Std. Error		7	27	2		2		5				2
Sample Size		26	5	101		124		33			1	290
Females		26,933	2,565	180,834		184,681		58,995				454,008
Percent		3.24	0.31	21.76		22.22		7.10				54.63
Sample Size		21	2	141		144		46				354
Mean Length		488	368	556		495		564				527
Std. Error		8	13	2		2		4				1
Sample Size		21	2	139		144		45				351
Both Sexes		60,278	8,978	312,932		346,277		101,318			1,283	831,066
Percent		7.25	1.08	37.65		41.67		12.19			0.15	100.00
Sample Size		47	7	244		270		79			1	648
Mean Length		501	374	569		506		575			571	536
Std. Error		5	20	1		2		3				1
Sample Size		47	7	240		268		78			1	641

-Continued-

Table 24. (p 4 of 6)

	Age Group											
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total*
Sample Period 4: 9 - 11 July												
Males	595		10,111	3,569	15,464	30,037		3,866				63,642
Percent	0.39		6.65	2.35	10.18	19.77		2.54				41.88
Sample Size	2		34	12	52	101		13				214
Mean Length	310		504	348	581	511		579				520
Std. Error	11		7	4	4	4		9				2
Sample Size	2		30	11	50	97		12				202
Females			10,111	1,190	17,844	54,125		4,164	595		297	88,326
Percent			6.65	0.78	11.74	35.62		2.74	0.39		0.20	58.12
Sample Size			34	4	60	182		14	2		1	297
Mean Length			496	361	555	491		562	486		545	506
Std. Error			7	5	3	2		7	27			2
Sample Size			34	4	58	181		14	2		1	294
Both Sexes	595		20,222	4,759	33,308	84,162		8,030	595		297	151,968
Percent	0.39		13.31	3.13	21.92	55.38		5.28	0.39		0.20	100.00
Sample Size	2		68	16	112	283		27	2		1	511
Mean Length	310		500	351	567	498		570	486		545	512
Std. Error	11		5	4	2	2		6	27			1
Sample Size	2		64	15	108	278		26	2		1	496

-Continued-

Table 24. (p 5 of 6)

	Age Group											
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total*
Sample Period 5: 12 - 22 July												
Males	532		26,588	15,421	51,049	62,214	532	9,572		1,064	2,127	169,099
Percent	0.11		5.71	3.31	10.97	13.37	0.11	2.06		0.23	0.46	36.34
Sample Size	1		50	29	96	117	1	18		2	4	318
Mean Length	352		512	353	581	500	606	582		567	594	519
Std. Error			6	5	2	3		7		9	16	2
Sample Size	1		49	29	94	115	1	18		2	4	313
Females		532	42,009	5,849	37,755	194,091		15,421	532			296,189
Percent		0.11	9.03	1.26	8.11	41.71		3.31	0.11			63.66
Sample Size		1	79	11	71	365		29	1			557
Mean Length		541	483	382	545	483		534	465			491
Std. Error			3	13	3	1		7				1
Sample Size		1	79	11	68	364		26	1			550
Both Sexes	532	532	68,597	21,270	88,804	256,305	532	24,993	532	1,064	2,127	465,288
Percent	0.11	0.11	14.74	4.57	19.09	55.09	0.11	5.37	0.11	0.23	0.46	100.00
Sample Size	1	1	129	40	167	482	1	47	1	2	4	875
Mean Length	352	541	494	361	565	487	606	552	465	567	594	501
Std. Error			3	5	2	1		5		9	16	1
Sample Size	1	1	128	40	162	479	1	44	1	2	4	863

-Continued-

Table 24. (p 6 of 6)

	Age Group											
	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total ^a
All Periods Combined:												
Males	1,127		113,522	40,513	406,479	569,286	532	123,562	368	1,432	4,885	1,261,706
Percent	0.04		4.07	1.45	14.59	20.43	0.02	4.43	0.01	0.05	0.18	45.27
Sample Size	3		177	66	512	789	1	164	1	3	6	1,722
Mean Length	330		505	353	582	512	606	590	539	574	594	537
Std. Error	11		3	5	1	1		3		9	16	1
Sample Size	3		172	63	504	779	1	163	1	3	6	1,695
Females		532	116,651	18,451	461,653	772,705		153,022	1,127		1,033	1,525,174
Percent		0.02	4.19	0.66	16.57	27.73		5.49	0.04		0.04	54.73
Sample Size		1	176	26	526	1,124		189	3		3	2,048
Mean Length		541	486	372	555	492		561	476		570	516
Std. Error			3	12	1	1		2	27		9	1
Sample Size		1	176	26	515	1,122		182	3		3	2,028
Both Sexes	1,127	532	230,173	58,964	868,132	1,341,991	532	276,584	1,495	1,432	5,918	2,786,880
Percent	0.04	0.02	8.26	2.12	31.15	48.15	0.02	9.92	0.05	0.05	0.21	100.00
Sample Size	3	1	353	92	1,038	1,913	1	353	4	3	9	3,770
Mean Length	330	541	495	359	568	500	606	574	491	574	590	525
Std. Error	11		2	5	1	1		2	27	9	12	1
Sample Size	3	1	348	89	1,019	1,901	1	345	4	3	9	3,723

^a An additional 45 sockeye salmon were counted in King Salmon River tributaries but were not sampled.

Table 25. Age, sex, and size composition of chinook salmon escapement, Egegik District, 1991.^a

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined						
	<u>Males</u>					
Percent ^b	2.44	21.95	12.20	7.32	2.44	46.34
Sample Size	1	9	5	3	1	19
Mean Length	370	601	702	874	907	675
Std. Error		7	19	59		11
Sample Size	1	9	5	3	1	19
	<u>Females</u>					
Percent ^b		7.32	21.95	24.39		53.66
Sample Size		3	9	10		22
Mean Length		587	802	837		789
Std. Error		19	15	11		8
Sample Size		3	9	10		22
	<u>All Fish</u>					
Percent ^b	2.44	29.27	34.15	31.71	2.44	100.00
Sample Size	1	12	14	13	1	41
Mean Length	370	597	766	846	907	736
Std. Error		7	12	16		7
Sample Size	1	12	14	13	1	41

^a Samples from Gertrude Creek (n=32) and Contact Creek (n=9) combined.

^b Based on a sample size of 41 and given these estimated age proportions, this sample would estimate true age composition within 20 percentage points 95% of the time.

Table 26. Age, sex, and size composition of coho salmon escapement, Egegik District, 1991.^a

	Age Group				
	1.1	2.1	3.0	3.1	Total
All Periods Combined					
	<u>Males</u>				
Percent ^b	10.38	53.78	2.83	0.94	67.93
Sample Size	11	57	3	1	72
Mean Length	534	559	334	560	546
Std. Error	14	8	3		7
Sample Size	11	57	3	1	72
	<u>Females</u>				
Percent ^b	3.77	28.30			32.08
Sample Size	4	30			34
Mean Length	551	573			571
Std. Error	11	6			6
Sample Size	4	30			34
	<u>All Fish</u>				
Percent ^b	14.15	82.08	2.83	0.94	100.00
Sample Size	15	87	3	1	106
Mean Length	538	564	334	560	554
Std. Error	10	6	3		5
Sample Size	15	87	3	1	106

^a Samples from Whale Mountain Creek (n=35), Gertrude Creek (n=32), Contact Creek (n=16), Mink Creek (n=11), Mossy Creek (n=10), and Otter Creek (n=2) combined.

^b Based on a sample size of 106 and given these estimated age proportions, this sample would estimate true age composition within 10 percentage points 90% of the time.

Table 27. Commercial salmon catch by period and species, Ugashik District, 1991.

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
6/04	24	0	7	0	0	0	7
6/05	24	0	16	0	0	0	16
6/06	24	0	49	0	0	0	49
6/10	15	0	7	0	0	0	7
6/11	24	30	18	0	0	0	48
6/12	24	143	219	0	0	0	362
6/13	24	59	72	0	0	0	131
6/14	9	248	23	0	0	0	271
6/17	15	459	133	16	0	0	608
6/18	24	5,092	253	128	0	0	5,473
6/19	24	6,283	210	175	0	0	6,668
6/20	24	12,039	130	208	0	0	12,377
6/21	9	3,978	29	117	0	0	4,124
7/03 ^b	0	1 743	0	8	0	0	1,751
7/04	8	73,380	0	61	0	0	73,441
7/05	11	204,971	4	393	0	0	205,368
7/06	12	134,822	20	905	0	0	135,747
7/07	6	268,101	6	2,467	0	0	270,574
7/08 ^b	0	97	0	1	0	0	98
7/09	16.5	523,405	11	3,716	0	0	527,132
7/10	20.5	418 018	9	4,282	0	0	422 309
7/11	14.5	217 230	7	3,482	0	0	220 719
7/12	24	223,803	20	3,960	0	0	227,783
7/13	24	160,996	9	3,072	0	0	164,077
7/14	24	196,454	13	4,528	1	0	200,996
7/15	24	125,805	14	3,302	1	0	129,122
7/16	24	111,599	4	3 153	0	0	114,756
7/17	24	27,058	0	987	0	0	28,045
7/18	24	72,434	2	2,741	0	0	75,177
7/19	24	48,228	13	2,639	0	0	50,880
7/20	24	34,087	4	2,343	0	0	36,434
7/21	24	47,767	9	2,740	0	0	50,516
7/22	24	37,056	9	2,222	0	0	39,287
7/23	24	27,247	5	2,471	0	5	29,728
7/24	24	18,281	5	654	0	7	18,947
7/25	24	17,105	7	712	0	4	17,828
7/26	9	3,774	0	253	0	2	4,029
7/29	15	6,977	25	1,112	0	129	8,243
7/30	24	5,009	0	473	0	82	5,564
7/31	24	2,889	0	440	0	58	3,387

-Continued-

Table 27. (p 2 of 2)

Opening		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
8/01	24	1,074	0	97	0	10	1,181
8/02	9	359	0	43	0	14	416
8/05	15	326	1	142	0	385	854
8/06	24	113	0	81	0	138	332
8/07	24	590	0	248	0	344	1,182
8/08	24	235	1	532	0	391	1,159
8/12	15	113	0	150	0	743	1,006
8/13	24	82	0	278	0	1,371	1,731
8/14	24	20	0	137	0	1,566	1,723
8/15	24	33	0	321	0	2,204	2,558
8/16	9	5	0	90	0	1,723	1,818
8/19	15	15	0	238	0	3,165	3,418
8/20	24	20	0	273	0	3,947	4,240
8/21	24	3	1	142	0	3,254	3,400
8/22	24	17	0	91	0	5,340	5,448
8/23	9	0	0	0	0	787	787
8/26	15	8	0	31	0	2,500	2,539
8/27	24	3	0	3	0	2,581	2,587
8/28	24	2	0	8	0	3,625	3,635
8/29	24	7	0	26	0	2,679	2,712
8/30	9	0	0	2	0	196	198
9/02	15	1	0	0	0	1,424	1,425
9/03	24	3	0	3	0	1,044	1,050
9/04	24	0	0	1	0	902	903
9/05	24	0	0	2	0	2,146	2,148
9/06	9	0	0	0	0	295	295
9/09	15	0	0	0	0	478	478
9/10	24	0	0	0	0	767	767
9/11	24	0	0	0	0	579	579
9/12	24	0	0	0	0	143	143
9/13	9	0	0	0	0	20	20
<hr/>							
Total	1,360.5	3,039,696	1,365	56,700	2	45,048	3,142,811
Percent		96.7	0.0 ^c	1.8	0.0 ^c	1.4	100.0

^a See Table 2 for emergency order fishing periods.

^b ADF&G test fish catch

^c Represented < 0.1%

Table 28. Age and sex composition of sockeye salmon catch and escapement, Ugashik District, 1991.

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	3.3	Total
<u>CATCH</u>												
Males			3,392	198,922		278	646,463	450,587	1,169	167,759	2,045	1,470,615
Percent			0.06	3.62		0.01	11.76	8.20	0.02	3.05	0.04	26.75
Females			3,551	150,544		278	784,062	438,083	3,181	187,370	2,012	1,569,081
Percent			0.06	2.74		0.01	14.26	7.97	0.06	3.41	0.04	28.54
Both Sexes			6,943	349,466		556	1,430,525	888,670	4,350	355,129	4,057	3,039,696
Percent			0.13	6.36		0.01	26.02	16.17	0.08	6.46	0.07	55.30
<u>ESCAPEMENT^a</u>												
Males	242	1,497	242	233,170	9,947		486,981	421,500		47,189		1,200,768
Percent	0.00 ^b	0.03	0.00 ^b	4.24	0.18		8.86	7.67		0.86		21.84
Females	242		1,929	222,459	286		457,617	513,864		60,141		1,256,538
Percent	0.00 ^b		0.04	4.05	0.01		8.32	9.35		1.09		22.86
Both Sexes	484	1,497	2,171	455,629	10,233		944,598	935,364		107,330		2,457,306
Percent	0.01	0.03	0.04	8.29	0.19		17.18	17.02		1.95		44.70
<u>CATCH AND ESCAPEMENT</u>												
Males	242	1,497	3,634	432,092	9,947	278	1,133,444	872,087	1,169	214,948	2,045	2,671,383
Percent	0.00 ^b	0.03	0.07	7.86	0.18	0.01	20.62	15.86	0.02	3.91	0.04	48.60
Females	242		5,480	373,003	286	278	1,241,679	951,947	3,181	247,511	2,012	2,825,619
Percent	0.00 ^b		0.10	6.79	0.01	0.01	22.59	17.32	0.06	4.50	0.04	51.40
Both Sexes	484	1,497	9,114	805,095	10,233	556	2,375,123	1,824,034	4,350	462,459	4,057	5,497,002
Percent	0.01	0.03	0.17	14.65	0.19	0.01	43.21	33.18	0.08	8.41	0.07	100.00

^a An additional 12,500, 12,195, and 15 sockeye salmon were counted in Dog Salmon and King Salmon River, and Grassy Creek but not sampled, bringing the Ugashik District sockeye escapement total to 2,482,016.

^b Represents < 0.01%

Table 29. Age, sex, and size composition of sockeye salmon commercial catch,
Ugashik District, 1991.

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 1: 11 - 21 June									
Males	1,111	2,500	278	9,999	2,500		1,944		18,332
Percent	3.92	8.82	0.98	35.29	8.82		6.86		64.71
Sample Size	4	9	1	36	9		7		66
Mean Length	551	505	657	566	511		564		551
Std. Error	22	8		4	10		8		3
Sample Size	4	9	1	36	9		7		66
Females	278	556	278	4,999	1,944		1,944		9,999
Percent	0.98	1.96	0.98	17.64	6.86		6.86		35.29
Sample Size	1	2	1	18	7		7		36
Mean Length	535	448	578	551	503		572		540
Std. Error		18		6	5		5		4
Sample Size	1	2	1	18	7		7		36
Both Sexes	1,389	3,056	556	14,998	4,444		3,888		28,331
Percent	4.90	10.79	1.96	52.94	15.69		13.72		100.00
Sample Size	5	11	2	54	16		14		102
Mean Length	547	495	618	561	507		568		547
Std. Error	22	8		3	6		5		2
Sample Size	5	11	2	54	16		14		102

-Continued-

Table 29. (p 2 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 2: 3 - 5 July									
Males	269	24,169		75,730	59,080		8,862		168,110
Percent	0.10	8.63		27.04	21.09		3.16		60.02
Sample Size	1	90		282	220		33		626
Mean Length	580	518		575	522		580		549
Std. Error		2		1	1		5		1
Sample Size	1	90		281	219		33		624
Mean Weight		2.19		3.53	2.31		2.91		2.87
Std. Error		0.08		0.08	0.10				0.05
Sample Size		10		25	17		1		53
Females	269	7,519		64,183	29,540		10,473		111,984
Percent	0.10	2.68		22.91	10.55		3.74		39.98
Sample Size	1	28		239	110		39		417
Mean Length	544	502		549	509		553		535
Std. Error		4		1	2		4		1
Sample Size	1	28		239	110		39		417
Mean Weight		1.64		2.63	1.98		2.44		2.37
Std. Error				0.06	0.08		0.45		0.06
Sample Size		1		18	10		2		31
Both Sexes	538	31,688		139,913	88,620		19,335		280,094
Percent	0.19	11.31		49.95	31.64		6.90		100.00
Sample Size	2	118		521	330		72		1,043
Mean Length	562	514		563	518		565		543
Std. Error		2		1	1		3		1
Sample Size	2	118		520	329		72		1,041
Mean Weight		2.06		3.12	2.20		2.66		2.67
Std. Error		0.08		0.05	0.07		0.45		0.04
Sample Size		11		43	27		3		84

-Continued-

Table 29. (p 3 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 3: 6 - 8 July									
Males	27,160			100,755	72,719		18,399	876	219,909
Percent	6.74			25.00	18.04		4.57	0.22	54.57
Sample Size	31			115	83		21	1	251
Mean Length	521			575	528		580	586	553
Std. Error	4			2	2		6		1
Sample Size	31			115	83		21	1	251
Mean Weight	2.27			3.34	2.47		3.47		2.93
Std. Error	0.08			0.09	0.06		0.40		0.06
Sample Size	9			32	18		5		64
Females	16,646			106,012	40,302		20,151		183,111
Percent	4.13			26.30	10.00		5.00		45.43
Sample Size	19			121	46		23		209
Mean Length	515			547	513		561		538
Std. Error	6			2	3		4		2
Sample Size	19			120	46		23		208
Mean Weight	2.67			2.71	2.27		2.98		2.64
Std. Error	0.21			0.06	0.12		0.21		0.05
Sample Size	3			35	6		5		49
Both Sexes	43,806			206,767	113,021		38,550	876	403,020
Percent	10.87			51.30	28.04		9.57	0.22	100.00
Sample Size	50			236	129		44	1	460
Mean Length	519			561	522		570	586	546
Std. Error	3			2	2		4		1
Sample Size	50			235	129		44	1	459
Mean Weight	2.42			3.02	2.40		3.21		2.80
Std. Error	0.10			0.05	0.06		0.22		0.04
Sample Size	12			67	24		10		113

-Continued-

Table 29. (p 4 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 4: 9 - 10 July									
Males		53,219		205,534	121,119		62,395		442,267
Percent		5.65		21.83	12.87		6.63		46.98
Sample Size		29		112	66		34		241
Mean Length		516		577	526		576		555
Std. Error		3		2	2		5		1
Sample Size		29		112	65		34		240
Mean Weight		2.37		3.02	2.43		2.36		2.69
Std. Error				0.14	0.09				0.07
Sample Size		1		8	6		1		16
Females	1,835	34,868		295,456	95,427		71,570		499,156
Percent	0.19	3.70		31.38	10.14		7.60		53.02
Sample Size	1	19		161	52		39		272
Mean Length	498	510		554	515		552		543
Std. Error		8		2	3		4		1
Sample Size	1	19		161	52		39		272
Mean Weight				2.65	1.95		3.04		2.57
Std. Error				0.09	0.14		0.42		0.09
Sample Size				22	3		3		28
Both Sexes	1,835	88,087		500,990	216,546		133,965		941,423
Percent	0.19	9.36		53.22	23.00		14.23		100.00
Sample Size	1	48		273	118		73		513
Mean Length	498	514		563	521		563		549
Std. Error		4		1	2		3		1
Sample Size	1	48		273	117		73		512
Mean Weight		2.37		2.80	2.22		2.72		2.63
Std. Error				0.08	0.08		0.42		0.06
Sample Size		1		30	9		4		44

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Table 29. (p 5 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 5: 11 - 13 July									
Males		45,591		107,546	86,505	1,169	33,901	1,169	275,881
Percent		7.57		17.86	14.37	0.19	5.63	0.19	45.83
Sample Size		39		92	74	1	29	1	236
Mean Length		510		574	520	577	576	548	547
Std. Error		5		3	2		6		2
Sample Size		39		92	74	1	29	1	236
Mean Weight		2.36		3.36	2.34	3.44	2.97		2.83
Std. Error		0.12		0.19	0.11				0.08
Sample Size		4		9	6	1	1		21
Females	1,169	24,549		162,489	109,885	1,169	26,887		326,148
Percent	0.19	4.08		26.99	18.25	0.19	4.47		54.17
Sample Size	1	21		139	94	1	23		279
Mean Length	570	493		548	503	586	547		529
Std. Error		4		2	2		4		1
Sample Size	1	21		139	94	1	23		279
Mean Weight		1.56		2.79	2.16		2.55		2.46
Std. Error		0.09		0.11	0.09		0.18		0.06
Sample Size		2		8	9		3		22
Both Sexes	1,169	70,140		270,035	196,390	2,338	60,788	1,169	602,029
Percent	0.19	11.65		44.85	32.62	0.39	10.10	0.19	100.00
Sample Size	1	60		231	168	2	52	1	515
Mean Length	570	504		558	510	582	563	548	537
Std. Error		3		2	1		4		1
Sample Size	1	60		231	168	2	52	1	515
Mean Weight		2.08		3.02	2.24	3.44	2.78		2.63
Std. Error		0.08		0.10	0.07		0.18		0.05
Sample Size		6		17	15	1	4		43

-Continued-

Table 29. (p 6 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
Sample Period 6: 14 July - 3 September									
Males	2,012	46,283		146,899	108,664		42,258		346,116
Percent	0.26	5.90		18.72	13.85		5.38		44.10
Sample Size	1	23		73	54		21		172
Mean Length	545	512		572	517		578		547
Std. Error		5		3	5		6		2
Sample Size	1	23		73	53		21		171
Mean Weight		2.19		2.95	2.71		2.69		2.74
Std. Error		0.12		0.18	0.20		0.32		0.11
Sample Size		5		14	12		4		35
Females		66,406		150,923	160,985	2,012	56,345	2,012	438,683
Percent		8.46		19.23	20.51	0.26	7.18	0.26	55.90
Sample Size		33		75	80	1	28	1	218
Mean Length		501		540	504	580	545	534	522
Std. Error		5		3	2		5		2
Sample Size		33		75	80	1	28	1	218
Mean Weight		1.89		2.31	2.06		2.55		2.18
Std. Error		0.10		0.08	0.09		0.24		0.06
Sample Size		5		18	16		3		42
Both Sexes	2,012	112,689		297,822	269,649	2,012	98,603	2,012	784,799
Percent	0.26	14.36		37.95	34.36	0.26	12.56	0.26	100.00
Sample Size	1	56		148	134	1	49	1	390
Mean Length	545	505		556	509	580	559	534	533
Std. Error		4		2	2		4		1
Sample Size	1	56		148	133	1	49	1	389
Mean Weight		2.01		2.63	2.32		2.61		2.43
Std. Error		0.08		0.10	0.10		0.19		0.06
Sample Size		10		32	28		7		77

-Continued-

Table 29. (p 7 of 7)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.3	Total
All Periods Combined:									
Males	3,392	198,922	278	646,463	450,587	1,169	167,759	2,045	1,470,615
Percent	0.11	6.54	0.01	21.27	14.82	0.04	5.52	0.07	48.38
Sample Size	6	221	1	710	506	1	145	2	1,592
Mean Length	550	515	657	575	522	577	577	564	551
Std. Error	22	2		1	1		3		1
Sample Size	6	221	1	709	503	1	145	2	1,588
Mean Weight		2.29		3.17	2.47	3.44	2.72		2.78
Std. Error		0.06		0.07	0.06		0.25		0.04
Sample Size		29		88	59	1	12		189
Females	3,551	150,544	278	784,062	438,083	3,181	187,370	2,012	1,569,081
Percent	0.12	4.95	0.01	25.79	14.41	0.10	6.16	0.07	51.62
Sample Size	4	122	1	753	389	2	159	1	1,431
Mean Length	528	503	578	549	507	582	551	534	533
Std. Error		3		1	1		2		1
Sample Size	4	122	1	752	389	2	159	1	1,430
Mean Weight		1.92		2.62	2.08		2.78		2.43
Std. Error		0.07		0.04	0.05		0.18		0.04
Sample Size		11		101	44		16		172
Both Sexes	6,943	349,466	556	1,430,525	888,670	4,350	355,129	4,057	3,039,696
Percent	0.23	11.50	0.02	47.06	29.24	0.14	11.68	0.13	100.00
Sample Size	10	343	2	1,463	895	3	304	3	3,023
Mean Length	539	510	618	560	515	581	563	549	542
Std. Error	22	2		1	1		2		1
Sample Size	10	343	2	1,461	892	3	304	3	3,018
Mean Weight		2.15		2.87	2.28	3.44	2.75		2.60
Std. Error		0.05		0.04	0.04		0.15		0.03
Sample Size		40		189	103	1	28		361

Table 30. Daily sockeye salmon escapement counts, Ugashik River, 1991.

Date	Daily Count ^a	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 3	186	186	0.01	0.01
4	114	300	0.00	0.01
5	246	546	0.01	0.02
6	204	750	0.01	0.03
7	1,344	2,094	0.05	0.09
8	206,874	208,968	8.42	8.50
9	203,916	412,884	8.30	16.80
10	63,720	476,604	2.59	19.40
11	20,352	496,956	0.83	20.22
12	264,186	761,142	10.75	30.97
13	570,204	1,331,346	23.20	54.18
14	224,910	1,556,256	9.15	63.33
15	484,884	2,041,140	19.73	83.06
16	139,578	2,180,718	5.68	88.74
17	31,296	2,212,014	1.27	90.02
18	22,488	2,234,502	0.92	90.93
19	20,754	2,255,256	0.84	91.78
20	33,942	2,289,198	1.38	93.16
21	24,816	2,314,014	1.01	94.17
22	46,530	2,360,544	1.89	96.06
23	51,000	2,411,544	2.08	98.14
24	16,236	2,427,780	0.66	98.80
25	9,996	2,437,776	0.41	99.21
26	7,446	2,445,222	0.30	99.51
27	5,910	2,451,132	0.24	99.75
28	6,174	2,457,306	0.25	100.00

^a An additional 12,500, 12,195, and 15 sockeye salmon were counted in Dog Salmon and King Salmon River tributaries, and Grassy Creek, respectively, bringing the Ugashik District escapement total to 2,482,016.

Table 31. Age, sex, and size composition of sockeye salmon escapement, Ugashik River, 1991.

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total ^a
Sample Period 1: 3 - 10 July									
Males				34,971		91,924	108,909	15,987	251,791
Percent				7.34		19.29	22.85	3.35	52.83
Sample Size				35		92	109	16	252
Mean Length				509		584	521	599	547
Std. Error				8		3	2	7	2
Sample Size				35		92	109	16	252
Females				30,974		63,947	108,909	20,983	224,813
Percent				6.50		13.42	22.85	4.40	47.17
Sample Size				31		64	109	21	225
Mean Length				492		553	490	557	515
Std. Error				5		3	2	6	2
Sample Size				31		64	109	21	225
Both Sexes				65,945		155,871	217,818	36,970	476,604
Percent				13.84		32.70	45.70	7.76	100.00
Sample Size				66		156	218	37	477
Mean Length				501		571	506	575	532
Std. Error				5		2	2	5	1
Sample Size				66		156	218	37	477

-Continued-

Table 31. (p 2 of 7)

	Age Group							Total*	
	0.2	1.1	0.3	1.2	2.1	1.3	2.2		2.3
Sample Period 2: 11 - 13 July									
Males				75,206	4,339	188,014	176,444	11,570	455,573
Percent				8.80	0.51	22.00	20.64	1.35	53.30
Sample Size				52	3	130	122	8	315
Mean Length				518	391	581	522	586	546
Std. Error				4	12	2	2	10	2
Sample Size				52	3	130	122	8	315
Females				40,495		151,858	189,461	17,355	399,169
Percent				4.74		17.77	22.17	2.03	46.70
Sample Size				28		105	131	12	276
Mean Length				484		549	494	542	516
Std. Error				5		3	2	9	1
Sample Size				28		104	131	12	275
Both Sexes				115,701	4,339	339,872	365,905	28,925	854,742
Percent				13.54	0.51	39.76	42.81	3.38	100.00
Sample Size				80	3	235	253	20	591
Mean Length				506	391	567	507	560	532
Std. Error				3	12	2	1	7	1
Sample Size				80	3	234	253	20	590

-Continued-

Table 31. (p 3 of 7)

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total*
Sample Period 3: 14 - 16 July									
Males				86,671	1,445	173,341	114,116	17,334	392,907
Percent				10.20	0.17	20.41	13.44	2.04	46.26
Sample Size				60	1	120	79	12	272
Mean Length				525	370	577	516	590	548
Std. Error				4		3	4	10	2
Sample Size				59	1	119	78	12	269
Females			1,445	92,449		203,675	141,562	17,334	456,465
Percent			0.17	10.88		23.98	16.67	2.04	53.74
Sample Size			1	64		141	98	12	316
Mean Length			509	491		545	497	529	519
Std. Error				3		3	3	10	2
Sample Size			1	64		140	98	12	315
Both Sexes			1,445	179,120	1,445	377,016	255,678	34,668	849,372
Percent			0.17	21.09	0.17	44.39	30.10	4.08	100.00
Sample Size			1	124	1	261	177	24	588
Mean Length			509	508	370	560	506	559	532
Std. Error				3		2	2	7	1
Sample Size			1	123	1	259	176	24	584

-Continued-

Table 31. (p 4 of 7)

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total ^a
Sample Period 4: 17 - 19 July									
Males				8,504	167	18,676	8,171	834	36,352
Percent				11.41	0.22	25.06	10.96	1.12	48.77
Sample Size				51	1	112	49	5	218
Mean Length				512	389	581	523	592	551
Std. Error				6		3	4	7	2
Sample Size				50	1	112	49	5	217
Females				8,838		18,343	9,838	1,167	38,186
Percent				11.86		24.61	13.20	1.57	51.23
Sample Size				53		110	59	7	229
Mean Length				487		540	495	534	516
Std. Error				3		3	3	16	2
Sample Size				53		108	59	6	226
Both Sexes				17,342	167	37,019	18,009	2,001	74,538
Percent				23.27	0.22	49.66	24.16	2.68	100.00
Sample Size				104	1	222	108	12	447
Mean Length				500	389	561	507	558	533
Std. Error				3		2	3	10	1
Sample Size				103	1	220	108	11	443

-Continued-

Table 31. (p 5 of 7)

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total*
Sample Period 5: 20 - 23 July									
Males		286		19,464	3,149	10,305	10,591	859	44,654
Percent		0.18		12.45	2.01	6.59	6.78	0.55	28.57
Sample Size		1		68	11	36	37	3	156
Mean Length		328		488	375	577	493	564	502
Std. Error				4	5	4	8	13	3
Sample Size		1		68	11	35	37	3	155
Females				35,780	286	16,888	56,104	2,576	111,634
Percent				22.89	0.18	10.81	35.90	1.65	71.43
Sample Size				125	1	59	196	9	390
Mean Length				485	454	535	487	537	495
Std. Error				2		4	2	15	1
Sample Size				124	1	57	196	8	386
Both Sexes		286		55,244	3,435	27,193	66,695	3,435	156,288
Percent		0.18		35.35	2.20	17.40	42.67	2.20	100.00
Sample Size		1		193	12	95	233	12	546
Mean Length		328		486	382	551	488	544	497
Std. Error				2	5	3	2	12	1
Sample Size		1		192	12	92	233	11	541

-Continued-

Table 31. (p 6 of 7)

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total*
Sample Period 6: 24 - 28 July									
Males	242	1,211	242	8,354	847	4,721	3,269	605	19,491
Percent	0.53	2.65	0.53	18.26	1.85	10.32	7.14	1.32	42.59
Sample Size	2	10	2	69	7	39	27	5	161
Mean Length	469	338	575	498	372	587	504	596	509
Std. Error	10	10	12	5	9	4	8	8	3
Sample Size	2	10	2	69	7	39	27	5	161
Females	242		484	13,923		2,906	7,990	726	26,271
Percent	0.53		1.06	30.42		6.35	17.46	1.59	57.41
Sample Size	2		4	115		24	66	6	217
Mean Length	507		565	485		530	489	530	494
Std. Error	35		13	2		6	3	9	2
Sample Size	2		4	115		23	66	6	216
Both Sexes	484	1,211	726	22,277	847	7,627	11,259	1,331	45,762
Percent	1.06	2.65	1.59	48.68	1.85	16.67	24.60	2.91	100.00
Sample Size	4	10	6	184	7	63	93	11	378
Mean Length	488	338	568	490	372	565	494	560	500
Std. Error	18	10	10	2	9	3	3	6	1
Sample Size	4	10	6	184	7	62	93	11	377

-Continued-

Table 31. (p 7 of 7)

	Age Group								
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	2.3	Total ^a
All Periods Combined:									
Males	242	1,497	242	233,170	9,947	486,981	421,500	47,189	1,200,768
Percent	0.01	0.06	0.01	9.49	0.40	19.82	17.15	1.92	48.87
Sample Size	2	11	2	335	23	529	423	49	1,374
Mean Length	469	336	575	516	381	580	519	591	545
Std. Error	10	10	12	2	7	2	2	5	1
Sample Size	2	11	2	333	23	527	422	49	1,369
Females	242		1,929	222,459	286	457,617	513,864	60,141	1,256,538
Percent	0.01		0.08	9.05	0.01	18.62	20.91	2.45	51.13
Sample Size	2		5	416	1	503	659	67	1,653
Mean Length	507		523	488	454	547	493	543	514
Std. Error	35		13	2		2	1	4	1
Sample Size	2		5	415	1	496	659	65	1,643
Both Sexes	484	1,497	2,171	455,629	10,233	944,598	935,364	107,330	2,457,306
Percent	0.02	0.06	0.09	18.54	0.42	38.44	38.06	4.37	100.00
Sample Size	4	11	7	751	24	1,032	1,082	116	3,027
Mean Length	488	336	529	503	383	564	505	564	529
Std. Error	18	10	10	2	7	1	1	3	1
Sample Size	4	11	7	748	24	1,023	1,081	114	3,012

^a An additional 12,500, 12,195, and 15 sockeye salmon were counted in Dog Salmon and King Salmon River, and Grassy Creek but not sampled.

Table 32. Age composition of chinook salmon commercial catch in Ugashik District, 1991.

	Age Group						
	1.2	0.4	1.3	1.4	2.3	1.5	Total
All Periods Combined							
Both Sexes	93	5	328	826	5	108	1,365
Percent ^a	6.81	0.37	24.03	60.51	0.37	7.91	100.00
Sample Size	19	1	67	169	1	22	279

^a Based on a sample size of 279 and given these estimated age proportions, this sample size would estimate true age composition within 5 percentage points 80% of the time.

Table 33. Commercial salmon catch by period and species, Nushagak District, 1991.

Openings		Catch (number of fish)					
Period	Hours ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
6/22 ^b	0	21	12	3	0	0	36
6/24	7	16,274	1,602	1,227	0	0	19,103
6/25-6/29 ^b	0	1,325	26	85	0	0	1,436
6/30	24	23,507	64	1,833	0	0	25,404
7/01	24	104,476	772	6,831	0	0	112,061
7/02	24	338,300	2,671	21,944	0	0	362,915
7/03	24	232,720	1,068	14,958	0	0	248,746
7/04	24	807,819	2,930	65,255	0	0	876,004
7/05	24	469,647	1,158	37,993	1	0	508,799
7/06	24	370,128	1,069	27,026	0	0	398,223
7/07	24	316,463	1,172	30,520	0	0	348,155
7/08	24	408,926	1,764	44,836	1	0	455,527
7/09	24	505,895	1,616	38,183	3	5	545,702
7/10	24	488,452	1,365	22,734	3	0	512,554
7/11	24	341,430	1,755	36,805	2	2	379,994
7/12	24	282,394	1,160	32,208	0	15	315,777
7/13	24	114,039	1,736	13,636	2	16	129,429
7/14	24	150,029	384	20,970	7	93	171,483
7/15	24	100,814	275	15,685	5	247	117,026
7/16	24	37,882	55	4,763	2	248	42,950
7/17	24	43,689	59	7,112	1	236	51,097
7/18	24	42,740	47	7,771	3	376	50,937
7/19	24	31,756	60	6,095	5	992	38,908
7/20	24	18,358	37	1,961	2	597	20,955
7/21	24	12,336	18	1,457	6	515	14,332
7/22	24	8,896	20	2,756	18	1,762	13,452
7/23	10.5	4,403	3	953	2	295	5,656
Total	569.5	5,272,719	22,898	465,582	63	5,399	5,766,661
Percent		91.4	0.4	8.1	0.0 ^c	0.1	100.0

^a See Table 2 for emergency order fishing periods.

^b ADF&G test fish catch

^c Represented < 0.1%

Table 34. Age and sex composition of sockeye salmon inshore run, Nushagak District, 1991.

	Age Group											
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	2.4	Total
<u>Catch</u>												
Males	48,469		291,257	462,971		28,847	1,414,494	41,209	7,062	38,407		2,332,716
Percent	0.63		3.79	6.03		0.38	18.41	0.54	0.09	0.50		30.36
Females	8,651		471,461	628,971		18,518	1,712,049	45,224	5,131	48,945	1,053	2,940,003
Percent	0.11		6.14	8.19		0.24	22.28	0.59	0.07	0.64	0.01	38.26
Both Sexes	57,120		762,718	1,091,942		47,365	3,126,543	86,433	12,193	87,352	1,053	5,272,719
Percent	0.74		9.93	14.21		0.62	40.69	1.12	0.16	1.14	0.01	68.62
<u>Escapement^a</u>												
Males	13,651	1,333	127,833	211,616	301	7,977	851,257	3,264	5,325	8,007		1,230,564
Percent	0.18	0.02	1.66	2.75	0.00 ^c	0.10	11.08	0.04	0.07	0.10		16.01
Females	1,836		72,193	254,366		4,606	829,880	5,019	3,508	9,180		1,180,588
Percent	0.02		0.94	3.31		0.06	10.80	0.07	0.05	0.12		15.36
Both Sexes	15,487	1,333	200,026	465,982	301	12,583	1,681,137	8,283	8,833	17,187		2,411,152
Percent	0.20	0.02	2.60	6.06	0.00 ^c	0.16	21.88	0.11	0.11	0.22		31.38
<u>Catch and Escapement^b</u>												
Males	62,120	1,333	419,090	674,587	301	36,824	2,265,751	44,473	12,387	46,414		3,563,280
Percent	0.81	0.02	5.45	8.78	0.00 ^c	0.48	29.49	0.58	0.16	0.60		46.37
Females	10,487		543,654	883,337		23,124	2,541,929	50,243	8,639	58,125	1,053	4,120,591
Percent	0.14		7.08	11.50		0.30	33.08	0.65	0.11	0.76	0.01	53.63
Both Sexes	72,607	1,333	962,744	1,557,924	301	59,948	4,807,680	94,716	21,026	104,539	1,053	7,683,871
Percent	0.94	0.02	12.53	20.28	0.00 ^c	0.78	62.57	1.23	0.27	1.36	0.01	100.00

^a An additional 10,920 sockeye salmon were counted in Snake River but not sampled for age information, bringing the Nushagak District escapement total to 2,422,072.

^b Nushagak District inshore run totaled 7,694,791.

^c Represents < 0.01%

Table 35. Age, sex, and size composition of sockeye salmon commercial catch, Nushagak District, 1991.

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total ^a
Sample Period 1: 22 - 29 June									
Males		2,523	1,081		3,424		90		7,118
Percent		20.51	8.79		27.84		0.73		57.87
Sample Size		56	24		76		2		158
Mean Length		549	496		566		619		550
Std. Error		6	7		3		1		3
Sample Size		56	24		76		2		158
Mean Weight		2.96	1.78		3.22		3.83		2.92
Std. Error		0.13	0.10		0.13				0.08
Sample Size		43	15		41		1		100
Females		1,622	360	45	3,109			45	5,181
Percent		13.19	2.93	0.37	25.28			0.37	42.13
Sample Size		36	8	1	69			1	115
Mean Length		538	499	604	540			520	537
Std. Error		4	6		2				2
Sample Size		36	8	1	69			1	115
Mean Weight		2.61	1.84		2.61			2.44	2.55
Std. Error		0.10	0.12		0.10				0.07
Sample Size		20	5		43			1	69
Both Sexes		4,145	1,441	45	6,533		90	45	12,299
Percent		33.70	11.72	0.37	53.12		0.73	0.37	100.00
Sample Size		92	32	1	145		2	1	273
Mean Length		545	497	604	554		619	520	545
Std. Error		4	5		2		1		2
Sample Size		92	32	1	145		2	1	273
Mean Weight		2.82	1.79		2.93		3.83	2.44	2.77
Std. Error		0.09	0.08		0.08				0.05
Sample Size		63	20		84		1	1	169
Sample Period 2: 30 June									
Males	231	2,125	1,802	92	6,100	46	46	139	10,581
Percent	1.20	11.08	9.40	0.48	31.81	0.24	0.24	0.72	55.18
Sample Size	5	46	39	2	132	1	1	3	229
Mean Length	456	543	499	583	561	515	645	568	545
Std. Error	13	6	6	7	3			8	2
Sample Size	4	45	39	2	132	1	1	3	227
Mean Weight	1.30	2.64	2.18	4.20	3.12		4.78	3.09	2.84
Std. Error		0.19	0.15		0.09				0.07
Sample Size	1	8	11	1	34		1	1	57
Females		2,033	739	46	5,637			139	8,594
Percent		10.60	3.85	0.24	29.40			0.72	44.82
Sample Size		44	16	1	122			3	186
Mean Length		529	500	540	536			533	531
Std. Error		3	7		2			10	2
Sample Size		44	16	1	122			3	186
Mean Weight		2.57	1.96		2.52				2.48
Std. Error		0.09	0.17		0.06				0.05
Sample Size		11	5		33				49
Both Sexes	231	4,158	2,541	138	11,737	46	46	278	19,175
Percent	1.20	21.68	13.25	0.72	61.21	0.24	0.24	1.45	100.00
Sample Size	5	90	55	3	254	1	1	6	415
Mean Length	456	536	499	569	549	515	645	551	539
Std. Error	13	4	5	7	2			6	1
Sample Size	4	89	55	3	254	1	1	6	413
Mean Weight	1.30	2.61	2.12	4.20	2.83		4.78	3.09	2.68
Std. Error		0.11	0.12		0.05				0.04
Sample Size	1	19	16	1	67		1	1	106

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Table 35. (p 2 of 4)

	Age Group							Total ^a
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Sample Period 3: 1 - 7 July								
Males	9,609	196,986	177,768	16,816	670,233	9,609	2,402	16,816
Percent	0.39	8.09	7.31	0.69	27.54	0.39	0.10	0.69
Sample Size	4	82	74	7	279	4	1	7
Mean Length	417	547	501	602	565	506	638	558
Std. Error	23	5	3	9	2	19		9
Sample Size	4	82	74	7	279	4	1	7
Mean Weight		3.06	2.15	4.68	3.32	1.44		2.98
Std. Error		0.20	0.11	0.42	0.07			
Sample Size		19	13	2	60	1		1
Females		307,490	127,320	14,414	845,600	12,011	2,402	24,023
Percent		12.64	5.23	0.59	34.75	0.49	0.10	0.99
Sample Size		128	53	6	352	5	1	10
Mean Length		538	485	589	537	516	561	556
Std. Error		2	4	6	1	12		12
Sample Size		128	53	6	350	4	1	10
Mean Weight		2.72	1.94	3.53	2.61			2.72
Std. Error		0.06	0.11	0.09	0.04			0.11
Sample Size		23	11	2	68			3
Both Sexes	9,609	504,476	305,088	31,230	1,515,833	21,620	4,804	40,839
Percent	0.39	20.73	12.54	1.28	62.29	0.89	0.20	1.68
Sample Size	4	210	127	13	631	9	2	17
Mean Length	417	542	494	596	549	511	600	557
Std. Error	23	2	2	6	1	11		8
Sample Size	4	210	127	13	629	8	2	17
Mean Weight		2.85	2.06	4.15	2.92	1.44		2.83
Std. Error		0.09	0.08	0.23	0.04			0.11
Sample Size		42	24	4	128	1		4
Sample Period 4: 8 - 9 July								
Males	12,253	35,535	77,196	3,676	253,643	2,451		2,451
Percent	1.43	4.14	8.99	0.43	29.53	0.29		0.29
Sample Size	10	29	63	3	207	2		2
Mean Length	430	555	495	627	567	496		566
Std. Error	18	8	4	10	2	49		44
Sample Size	10	29	63	3	206	2		2
Mean Weight	1.11	3.28	2.01		3.08	1.45		
Std. Error	0.13	0.26	0.10		0.07			
Sample Size	3	8	21		43	1		
Females	3,676	67,393	91,900	1,225	296,532	6,127	1,225	3,676
Percent	0.43	7.85	10.70	0.14	34.52	0.71	0.14	0.43
Sample Size	3	55	75	1	242	5	1	3
Mean Length	404	538	479	590	537	485	590	547
Std. Error	5	2	3		1	12		12
Sample Size	3	55	75	1	239	5	1	3
Mean Weight		2.63	1.57		2.51			
Std. Error		0.10	0.05		0.04			
Sample Size		12	26		68			
Both Sexes	15,929	102,928	169,096	4,901	550,175	8,578	1,225	6,127
Percent	1.85	11.98	19.69	0.57	64.05	1.00	0.14	0.71
Sample Size	13	84	138	4	449	7	1	5
Mean Length	424	544	486	618	551	488	590	555
Std. Error	14	3	3	10	1	16		19
Sample Size	13	84	138	4	445	7	1	5
Mean Weight	1.11	2.85	1.77		2.77	1.45		
Std. Error	0.13	0.11	0.05		0.04			
Sample Size	3	20	47		111	1		

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Table 35. (p 3 of 4)

	Age Group							Total ^a
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3
Sample Period 5: 10 - 11 July								
Males	9,023	16,543	114,295	4,512	138,356	3,008		285,737
Percent	1.17	2.14	14.79	0.58	17.90	0.39		36.96
Sample Size	6	11	76	3	92	2		190
Mean Length	434	549	481	617	567	530		528
Std. Error	19	17	3	23	3	6		2
Sample Size	6	11	75	3	92	2		189
Mean Weight	1.15	2.15	1.81	4.30	3.11	2.60		2.49
Std. Error			0.09	1.10	0.12			0.07
Sample Size	1	1	19	2	27	1		51
Females	1,504	45,116	245,133		189,489	3,008	1,504	487,258
Percent	0.19	5.84	31.71		24.51	0.39	0.19	63.04
Sample Size	1	30	163		126	2	1	324
Mean Length	407	523	477		524	476	530	500
Std. Error		4	2		2	3		1
Sample Size	1	30	163		125	2	1	323
Mean Weight		2.51	1.70		2.39	1.75	2.45	2.05
Std. Error		0.17	0.06		0.07		3.30	0.04
Sample Size		7	27		36	1	1	73
Both Sexes	10,527	61,659	359,428	4,512	327,845	6,016	1,504	772,995
Percent	1.36	7.98	46.50	0.58	42.41	0.78	0.19	100.00
Sample Size	7	41	239	3	218	4	1	514
Mean Length	430	530	478	617	542	503	530	510
Std. Error	19	6	2	23	2	4		1
Sample Size	7	41	238	3	217	4	1	512
Mean Weight	1.15	2.41	1.73	4.30	2.69	2.18	2.45	2.21
Std. Error		0.17	0.05	1.10	0.07		3.30	0.04
Sample Size	1	8	46	2	63	2	1	124
Sample Period 6: 12 - 23 July								
Males	17,353	34,707	83,296	3,471	161,386	24,295	3,471	340,126
Percent	2.25	4.50	10.81	0.45	20.95	3.15	0.45	44.14
Sample Size	10	20	48	2	93	14	2	196
Mean Length	411	576	489	613	559	534	608	535
Std. Error	7	5	4	3	3	6	22	2
Sample Size	10	20	48	2	93	14	2	196
Mean Weight	1.47	3.80	2.03	4.36	3.29	2.44	4.67	2.90
Std. Error	0.15	0.17	0.12		0.10	0.05		0.06
Sample Size	2	6	14	1	29	3	1	58
Females	3,471	43,383	157,916	1,735	190,887	22,559		430,363
Percent	0.45	5.63	20.50	0.23	24.77	2.93		55.86
Sample Size	2	25	91	1	110	13		248
Mean Length	446	523	472	550	526	495		504
Std. Error	34	4	3		2	6		2
Sample Size	2	25	91	1	110	13		248
Mean Weight		2.45	1.62		2.48	1.90		2.12
Std. Error		0.33	0.04		0.07	0.09		0.05
Sample Size		4	26		32	8		70
Both Sexes	20,824	78,090	241,212	5,206	352,273	46,854	3,471	770,489
Percent	2.70	10.14	31.31	0.68	45.72	6.08	0.45	100.00
Sample Size	12	45	139	3	203	27	2	444
Mean Length	417	546	478	592	541	516	608	518
Std. Error	8	3	2	3	2	4	22	1
Sample Size	12	45	139	3	203	27	2	444
Mean Weight	1.47	3.05	1.76	4.36	2.85	2.18	4.67	2.47
Std. Error	0.15	0.20	0.05		0.06	0.05		0.04
Sample Size	2	10	40	1	61	11	1	128

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Table 35. (p 4 of 4)

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total ^a
All Periods Combined:									
Males	48,469	288,419	455,438	28,567	1,233,142	39,409	6,009	31,553	2,131,006
Percent	1.00	5.93	9.36	0.59	25.33	0.81	0.12	0.65	43.78
Sample Size	35	244	324	17	879	23	6	19	1,547
Mean Length	421	552	493	609	565	524	620	561	544
Std. Error	8	4	2	7	1	7	21	7	1
Sample Size	34	243	323	17	878	23	6	19	1,543
Mean Weight	1.28	3.12	2.02	4.56	3.24	2.15	4.65	3.02	2.92
Std. Error	0.10	0.15	0.06	0.41	0.05	0.05		0.49	0.04
Sample Size	7	85	93	6	234	6	3	4	438
Females	8,651	467,037	623,368	17,465	1,531,254	43,705	5,131	39,799	2,736,410
Percent	0.18	9.60	12.81	0.36	31.46	0.90	0.11	0.82	56.22
Sample Size	6	318	406	10	1,021	25	3	24	1,813
Mean Length	421	535	478	585	534	498	559	555	521
Std. Error	17	1	1	6	1	5		9	1
Sample Size	6	318	406	10	1,015	24	3	24	1,806
Mean Weight		2.66	1.71	3.53	2.55	1.88	2.45	2.75	2.37
Std. Error		0.05	0.03	0.09	0.03	0.09		0.11	0.02
Sample Size		77	100	2	280	9	1	5	474
Both Sexes	57,120	755,456	1,078,806	46,032	2,764,396	83,114	11,140	71,352	4,867,416
Percent	1.17	15.52	22.16	0.95	56.79	1.71	0.23	1.47	100.00
Sample Size	41	562	730	27	1,900	48	9	43	3,360
Mean Length	421	541	484	600	548	511	592	557	531
Std. Error	7	2	1	5	1	4	21	6	1
Sample Size	40	561	729	27	1,893	47	9	43	3,349
Mean Weight	1.28	2.84	1.84	4.19	2.86	2.04	4.00	2.90	2.61
Std. Error	0.10	0.06	0.03	0.25	0.03	0.05		0.18	0.02
Sample Size	7	162	193	8	514	15	4	9	912

^a Does not include age, weight, length, or catch data for 405,303 sockeye salmon harvested by set nets in Igushik Section.

Table 36. Commercial setnet sockeye salmon catches by area and period, Nushagak District, 1991.

Date	Hours ^a	Nushagak Beaches ^b	Clark's Point Beach ^c	Ekuk Beach ^d	Igushik Beach ^e
6/24	7	5,102	800	90	5,321
6/30	8.5	4,258	0	101	4,332
7/01	24	27,542	797	345	11,821
7/02	24	167,250	0	7,230	14,578
7/03	24	58,053	3,156	14,925	29,656
7/04	24	47,928	2,646	57,198	49,221
7/05	24	16,462	3,143	4,776	33,509
7/06	24	7,346	3,276	10,088	42,149
7/07	24	8,650	2,816	7,695	25,120
7/08	24	10,820	8,765	12,365	14,811
7/09	24	29,869	2,766	28,836	41,051
7/10	24	36,174	2,676	13,194	38,076
7/11	24	16,677	2,322	21,788	18,811
7/12	24	16,100	2,319	16,091	26,726
7/13	24	30,347	1,005	11,662	7,103
7/14	24	4,872	1,162	15,474	12,165
7/15	24	9,760	1,290	15,131	6,364
7/16	24	1,619	1,252	10,041	6,144
7/17	24	8,744	444	5,079	4,184
7/18	24	5,512	445	10,017	5,140
7/19	24	5,302	804	4,765	5,101
7/20	24	3,969	715	7,817	1,707
7/21	24	2,409	825	6,014	628
7/22	24	1,572	427	4,554	1,043
7/23	10.5	485	135	2,845	542
Total	554	526,822	43,986	288,121	405,303

^a See Table 2 for emergency order fishing periods.

^b Includes Combine Flats, Queen Slough, and Coffee Point. Other species catch was 9,005 chinook, 24,786 chum, 32 pink, and 277 coho salmon.

^c Other species catch was 211 chinook, 4,377 chum, and 32 coho salmon.

^d Other species catch was 303 chinook, 7,287 chum, 27 pink, and 1,846 coho salmon.

^e Other species catch was 1,028 chinook, 505 chum, and 1 coho salmon.

Table 37. Age, sex, and size composition of sockeye salmon commercial catch, Igushik Beach set net fishery, 1991.

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 1: 24 June									
Males	108	86		2,606			108		2,908
Percent	2.03	1.62		48.98			2.03		54.65
Sample Size	5	4		121			5		135
Mean Length	544	508		576			585		574
Std. Error	26	11		2			14		2
Sample Size	5	4		121			5		135
Females	43	22		2,197			151		2,413
Percent	0.81	0.41		41.29			2.84		45.35
Sample Size	2	1		102			7		112
Mean Length	544	517		548			552		548
Std. Error	20			2			6		2
Sample Size	2	1		102			7		112
Both Sexes	151	108		4,803			259		5,321
Percent	2.84	2.03		90.26			4.87		100.00
Sample Size	7	5		223			12		247
Mean Length	544	510		563			566		562
Std. Error	20	11		1			7		1
Sample Size	7	5		223			12		247
Sample Period 2: 30 June - 3 July									
Males	1,677	1,957	280	24,881	280		559		29,634
Percent	2.78	3.24	0.46	41.20	0.46		0.93		49.07
Sample Size	6	7	1	89	1		2		106
Mean Length	539	494	635	573	540		560		566
Std. Error	24	14		3			20		3
Sample Size	6	7	1	89	1		2		106
Mean Weight	3.27			3.53	2.73				3.51
Std. Error				0.09					0.08
Sample Size	1			22	1				24
Females	3,914	559		26,280					30,753
Percent	6.48	0.93		43.52					50.93
Sample Size	14	2		94					110
Mean Length	532	480		539					537
Std. Error	5			2					2
Sample Size	14	2		94					110
Mean Weight	2.60	1.93		2.59					2.58
Std. Error	0.08			0.06					0.05
Sample Size	6	1		26					33
Both Sexes	5,591	2,516	280	51,161	280		559		60,387
Percent	9.26	4.17	0.46	84.72	0.46		0.93		100.00
Sample Size	20	9	1	183	1		2		216
Mean Length	534	491	635	556	540		560		551
Std. Error	8	14		2			20		2
Sample Size	20	9	1	183	1		2		216
Mean Weight	2.80	1.93		3.05	2.73				3.01
Std. Error	0.08			0.05					0.05
Sample Size	7	1		48	1				57

-Continued-

Table 37. (p 2 of 3)

		Age Group								
		0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 3: 4 - 5 July										
Males			935		36,458	467		467		38,327
Percent			1.13		44.07	0.56		0.56		46.33
Sample Size			2		78	1		1		82
Mean Length			515		570	510		590		568
Std. Error			5		3					3
Sample Size			2		78	1		1		82
Mean Weight			2.23		3.41			4.05		3.39
Std. Error					0.11					0.10
Sample Size			1		25			1		27
Females	467	467		42,067				1,402		44,403
Percent	0.56	0.56		50.85				1.69		53.67
Sample Size	1	1		90				3		95
Mean Length	530	490		537				527		536
Std. Error				2				9		2
Sample Size	1	1		90				3		95
Mean Weight				2.72						2.72
Std. Error				0.06						0.06
Sample Size				21						21
Both Sexes	467	1,402		78,525	467		1,869			82,730
Percent	0.56	1.69		94.92	0.56		2.26			100.00
Sample Size	1	3		168	1		4			177
Mean Length	530	507		552	510		542			551
Std. Error		5		2			9			2
Sample Size	1	3		168	1		4			177
Mean Weight		2.23		3.04			4.05			3.04
Std. Error				0.06						0.06
Sample Size		1		46			1			48
Sample Period 4: 6 - 11 July										
Males	1,053	3,158		85,271	1,053	1,053	3,158			94,746
Percent	0.58	1.75		47.37	0.58	0.58	1.75			52.63
Sample Size	1	3		81	1	1	3			90
Mean Length	590	538		575	480	590	584			573
Std. Error		10		2			11			2
Sample Size	1	3		81	1	1	3			90
Mean Weight	3.90			3.39	1.87	3.72				3.38
Std. Error				0.09						0.09
Sample Size	1			24	1	1				27
Females		3,158	1,053	73,691	1,053		5,264	1,053		85,272
Percent		1.75	0.58	40.94	0.58		2.92	0.58		47.37
Sample Size		3	1	70	1		5	1		81
Mean Length		510	590	543	500		551	574		543
Std. Error		20		2			13			2
Sample Size		3	1	70	1		5	1		81
Mean Weight		1.64		2.76			2.53			2.70
Std. Error				0.08			0.42			0.08
Sample Size		1		15			2			18
Both Sexes	1,053	6,316	1,053	158,962	2,106	1,053	8,422	1,053		180,018
Percent	0.58	3.51	0.58	88.30	1.17	0.58	4.68	0.58		100.00
Sample Size	1	6	1	151	2	1	8	1		171
Mean Length	590	524	590	560	490	590	564	574		559
Std. Error		11		2			9			2
Sample Size	1	6	1	151	2	1	8	1		171
Mean Weight	3.90	1.64		3.10	1.87	3.72	2.53			3.05
Std. Error				0.06			0.42			0.06
Sample Size	1	1		39	1	1	2			45

-Continued-

Table 37. (p 3 of 3)

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
Sample Period 5: 12 - 23 July									
Males		1,397		32,136			2,562		36,095
Percent		1.82		41.82			3.33		46.97
Sample Size		6		138			11		155
Mean Length		500		573			575		570
Std. Error		5		2			4		2
Sample Size		6		138			11		155
Mean Weight		2.49		3.40			3.43		3.37
Std. Error		0.23		0.10			0.17		0.09
Sample Size		2		36			3		41
Females		1,397		36,560	466		2,329		40,752
Percent		1.82		47.58	0.61		3.03		53.03
Sample Size		6		157	2		10		175
Mean Length		495		536	512		556		536
Std. Error		10		2	1		8		2
Sample Size		6		157	2		10		175
Mean Weight		1.76		2.51	2.41		2.75		2.50
Std. Error		0.06		0.05					0.05
Sample Size		2		48	1		1		52
Both Sexes		2,794		68,696	466		4,891		76,847
Percent		3.64		89.39	0.61		6.36		100.00
Sample Size		12		295	2		21		330
Mean Length		497		554	512		566		552
Std. Error		5		1	1		4		1
Sample Size		12		295	2		21		330
Mean Weight		2.13		2.93	2.41		3.11		2.91
Std. Error		0.12		0.06			0.17		0.05
Sample Size		4		84	1		4		93
All Periods Combined:									
Males	2,838	7,533	280	181,352	1,800	1,053	6,854		201,710
Percent	0.70	1.86	0.07	44.74	0.44	0.26	1.69		49.77
Sample Size	12	22	1	507	3	1	22		568
Mean Length	558	516	635	573	497	590	579		571
Std. Error	22	6		1			6		1
Sample Size	12	22	1	507	3	1	22		568
Mean Weight	3.51	2.39		3.42	2.05	3.72	3.53		3.40
Std. Error		0.23		0.05			0.17		0.05
Sample Size	2	3		107	2	1	4		119
Females	4,424	5,603	1,053	180,795	1,519		9,146	1,053	203,593
Percent	1.09	1.38	0.26	44.61	0.37		2.26	0.26	50.23
Sample Size	17	13	1	513	3		25	1	573
Mean Length	532	502	590	540	504		549	574	539
Std. Error	4	14		1	1		8		1
Sample Size	17	13	1	513	3		25	1	573
Mean Weight	2.60	1.70		2.67	2.41		2.60		2.64
Std. Error	0.08	0.06		0.04			0.42		0.04
Sample Size	6	4		110	1		3		124
Both Sexes	7,262	13,136	1,333	362,147	3,319	1,053	16,000	1,053	405,303
Percent	1.79	3.24	0.33	89.35	0.82	0.26	3.95	0.26	100.00
Sample Size	29	35	2	1,020	6	1	47	1	1,141
Mean Length	542	510	599	557	500	590	562	574	555
Std. Error	8	6		1	1		5		1
Sample Size	29	35	2	1,020	6	1	47	1	1,141
Mean Weight	2.98	1.92		3.05	2.14	3.72	2.86		3.01
Std. Error	0.08	0.12		0.03			0.29		0.03
Sample Size	8	7		217	3	1	7		243

Table 38. Age and sex composition of sockeye salmon estimated catch and escapement, Wood River, 1991.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	Total
	<u>Catch</u>										
Males	2,137		14,081	398,708		1,078	490,705	35,666	1,025	4,016	947,416
Percent	0.06		0.41	11.65		0.03	14.34	1.04	0.03	0.12	27.68
Females	1,418		8,171	551,573			721,864	26,881		5,723	1,315,630
Percent	0.04		0.24	16.11			21.09	0.79		0.17	38.44
Both Sexes	3,555		22,252	950,281		1,078	1,212,569	62,547	1,025	9,739	2,263,046
Percent	0.10		0.65	27.76		0.03	35.42	1.83	0.03	0.28	66.11
	<u>Escapement</u>										
Males	602	1,333	6,241	185,257	301	301	338,741	2,954	908	1,019	537,657
Percent	0.02	0.04	0.18	5.41	0.01	0.01	9.90	0.09	0.03	0.03	15.71
Females	301		1,263	225,070			391,222	3,087		1,320	622,263
Percent	0.01		0.04	6.58			11.43	0.09		0.04	18.18
Both Sexes	903	1,333	7,504	410,327	301	301	729,963	6,041	908	2,339	1,159,920
Percent	0.03	0.04	0.22	11.99	0.01	0.01	21.33	0.18	0.03	0.07	33.89
	<u>Catch and Escapement</u>										
Males	2,739	1,333	20,322	583,965	301	1,379	829,446	38,620	1,933	5,035	1,485,073
Percent	0.08	0.04	0.59	17.06	0.01	0.04	24.23	1.13	0.06	0.15	43.39
Females	1,719		9,434	776,643			1,113,086	29,968		7,043	1,937,893
Percent	0.05		0.28	22.69			32.52	0.88		0.21	56.61
Both Sexes	4,458	1,333	29,756	1,360,608	301	1,379	1,942,532	68,588	1,933	12,078	3,422,966
Percent	0.13	0.04	0.87	39.75	0.01	0.04	56.75	2.00	0.06	0.35	100.00

Table 39. Daily sockeye salmon escapement counts, Wood River, 1991.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 18	168	168	0.01	0.01
19	84	252	0.01	0.02
20	90	342	0.01	0.03
21	246	588	0.02	0.05
22	90	678	0.01	0.06
23	918	1,596	0.08	0.14
24	5,262	6,858	0.45	0.59
25	14,136	20,994	1.22	1.81
26	4,164	25,158	0.36	2.17
27	2,580	27,738	0.22	2.39
28	14,778	42,516	1.27	3.67
29	18,594	61,110	1.60	5.27
30	9,360	70,470	0.81	6.08
July 1	53,478	123,948	4.61	10.69
2	46,158	170,106	3.98	14.67
3	410,964	581,070	35.43	50.10
4	252,624	833,694	21.78	71.88
5	58,338	892,032	5.03	76.90
6	18,072	910,104	1.56	78.46
7	16,398	926,502	1.41	79.88
8	10,914	937,416	0.94	80.82
9	15,858	953,274	1.37	82.18
10	17,004	970,278	1.47	83.65
11	21,258	991,536	1.83	85.48
12	20,550	1,012,086	1.77	87.25
13	20,070	1,032,156	1.73	88.99
14	18,972	1,051,128	1.64	90.62
15	12,264	1,063,392	1.06	91.68
16	11,976	1,075,368	1.03	92.71
17	28,200	1,103,568	2.43	95.14
18	21,630	1,125,198	1.86	97.01
19	10,548	1,135,746	0.91	97.92
20	8,844	1,144,590	0.76	98.68
21	6,834	1,151,424	0.59	99.27
22	4,272	1,155,696	0.37	99.64
23	4,224	1,159,920	0.36	100.00

Table 40. Age, sex, and size composition of sockeye salmon escapement, Wood River, 1991.

	Age Group										
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 1: 18 June - 2 July											
Males		357	357	34,664			57,894	1,072		715	95,059
Percent		0.21	0.21	20.38			34.03	0.63		0.42	55.88
Sample Size		1	1	97			162	3		2	266
Mean Length		330	602	501			569	502		576	542
Std. Error				3			2	12		4	2
Sample Size		1	1	97			162	3		2	266
Females			357	23,229			50,746			715	75,047
Percent			0.21	13.66			29.83			0.42	44.12
Sample Size			1	65			142			2	210
Mean Length			571	484			543			572	525
Std. Error				3			2			29	2
Sample Size			1	65			142			2	210
Both Sexes		357	714	57,893			108,640	1,072		1,430	170,106
Percent		0.21	0.42	34.03			63.87	0.63		0.84	100.00
Sample Size		1	2	162			304	3		4	476
Mean Length		330	587	494			557	502		574	535
Std. Error				2			1	12		14	1
Sample Size		1	2	162			304	3		4	476
Sample Period 2: 3 - 4 July											
Males		976	1,952	85,876			208,835	976			298,615
Percent		0.15	0.29	12.94			31.47	0.15			45.00
Sample Size		1	2	88			214	1			306
Mean Length		340	579	497			580	462			555
Std. Error			15	3			1				1
Sample Size		1	2	88			214	1			306
Females				85,876			278,121	976			364,973
Percent				12.94			41.91	0.15			55.00
Sample Size				88			285	1			374
Mean Length				480			545	513			530
Std. Error				2			1				1
Sample Size				88			284	1			373
Both Sexes		976	1,952	171,752			486,956	1,952			663,588
Percent		0.15	0.29	25.88			73.38	0.29			100.00
Sample Size		1	2	176			499	2			680
Mean Length		340	579	489			560	488			541
Std. Error			15	2			1				1
Sample Size		1	2	176			498	2			679
Sample Period 3: 5 - 11 July											
Males			2,125	33,086			42,191	304	607	304	78,617
Percent			1.35	20.96			26.73	0.19	0.38	0.19	49.81
Sample Size			7	109			139	1	2	1	259
Mean Length			553	488			573	463	581	544	536
Std. Error			12	3			3		15		2
Sample Size			7	109			138	1	2	1	258
Females			304	38,550			39,763	304		304	79,225
Percent			0.19	24.42			25.19	0.19		0.19	50.19
Sample Size			1	127			131	1		1	261
Mean Length			490	473			534	473		535	504
Std. Error				2			2				1
Sample Size			1	127			130	1		1	260
Both Sexes			2,429	71,636			81,954	608	607	608	157,842
Percent			1.54	45.38			51.92	0.39	0.38	0.39	100.00
Sample Size			8	236			270	2	2	2	520
Mean Length			545	480			554	468	581	540	520
Std. Error			12	2			2		15		1
Sample Size			8	236			268	2	2	2	518

-Continued-

Table 40. (p 2 of 2)

	Age Group										
	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 4: 12 - 25 July											
Males	602		1,807	31,631	301	301	29,821	602	301		65,366
Percent	0.36		1.07	18.79	0.18	0.18	17.71	0.36	0.18		38.82
Sample Size	2		6	105	1	1	99	2	1		217
Mean Length	405		531	492	364	641	570	469	661		529
Std. Error	15		35	4			4	13			3
Sample Size	2		6	105	1	1	97	2	1		215
Females	301		602	77,415			22,592	1,807		301	103,018
Percent	0.18		0.36	45.98			13.42	1.07		0.18	61.18
Sample Size	1		2	257			75	6		1	342
Mean Length	407		550	472			525	481		483	484
Std. Error			4	2			4	11			1
Sample Size	1		2	257			74	6		1	341
Both Sexes	903		2,409	109,046	301	301	52,413	2,409	301	301	168,384
Percent	0.54		1.43	64.76	0.18	0.18	31.13	1.43	0.18	0.18	100.00
Sample Size	3		8	362	1	1	174	8	1	1	559
Mean Length	406		536	478	364	641	551	478	661	483	501
Std. Error	15		26	1			3	9			1
Sample Size	3		8	362	1	1	171	8	1	1	556
All Periods Combined:											
Males	602	1,333	6,241	185,257	301	301	338,741	2,954	908	1,019	537,657
Percent	0.05	0.11	0.54	15.97	0.03	0.03	29.20	0.25	0.08	0.09	46.35
Sample Size	2	2	16	399	1	1	614	7	3	3	1,048
Mean Length	405	337	558	495	364	641	576	478	607	566	547
Std. Error	15		13	2			1	9	15	4	1
Sample Size	2	2	16	399	1	1	611	7	3	3	1,045
Females	301		1,263	225,070			391,222	3,087		1,320	622,263
Percent	0.03		0.11	19.40			33.73	0.27		0.11	53.65
Sample Size	1		4	537			633	8		4	1,187
Mean Length	407		541	477			543	490		543	518
Std. Error			4	1			1	11		29	1
Sample Size	1		4	537			630	8		4	1,184
Both Sexes	903	1,333	7,504	410,327	301	301	729,963	6,041	908	2,339	1,159,920
Percent	0.08	0.11	0.65	35.38	0.03	0.03	62.93	0.52	0.08	0.20	100.00
Sample Size	3	2	20	936	1	1	1,247	15	3	7	2,235
Mean Length	406	337	555	485	364	641	558	484	607	553	531
Std. Error	15		11	1			1	7	15	14	1
Sample Size	3	2	20	936	1	1	1,241	15	3	7	2,229

Table 41. Age and sex composition of sockeye salmon catch and escapement, Igushik River, 1991.

	Age Group								
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
<u>Catch</u>									
Males	3,537	44,439	280	705,844	5,543	3,439	31,365		794,447
Percent	0.14	1.79	0.01	28.49	0.22	0.14	1.27		32.06
Females	6,429	71,754	1,053	794,730	18,343	641	33,238	1,053	927,241
Percent	0.26	2.90	0.04	32.07	0.74	0.03	1.34	0.04	37.42
Both Sexes	9,966	116,193	1,333	1,500,574	23,886	4,080	64,603	1,053	1,721,688
Percent	0.40	4.69	0.05	60.56	0.96	0.16	2.61	0.04	69.48
<u>Escapement</u>									
Males	310	17,148		362,065	310	2,114	6,220		388,167
Percent	0.01	0.69		14.61	0.01	0.09	0.25		15.67
Females	310	26,993		332,729	1,932	438	5,557		367,959
Percent	0.01	1.09		13.43	0.08	0.02	0.22		14.85
Both Sexes	620	44,141		694,794	2,242	2,552	11,777		756,126
Percent	0.03	1.78		28.04	0.09	0.10	0.48		30.52
<u>Catch and Escapement</u>									
Males	3,847	61,587	280	1,067,909	5,853	5,553	37,585		1,182,614
Percent	0.16	2.49	0.01	43.10	0.24	0.22	1.52		47.73
Females	6,739	98,747	1,053	1,127,459	20,275	1,079	38,795	1,053	1,295,200
Percent	0.27	3.99	0.04	45.50	0.82	0.04	1.57	0.04	52.27
Both Sexes	10,586	160,334	1,333	2,195,368	26,128	6,632	76,380	1,053	2,477,814
Percent	0.43	6.47	0.05	88.60	1.05	0.27	3.08	0.04	100.00

Table 42. Daily sockeye salmon escapement counts, Igushik River, 1991.

Date	Daily Count	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 24	54	54	0.01	0.01
25	0	54	0.00	0.01
26	4,602	4,656	0.61	0.62
27	26,238	30,894	3.47	4.09
28	51,342	82,236	6.79	10.88
29	29,220	111,456	3.86	14.74
30	22,680	134,136	3.00	17.74
July 1	20,724	154,860	2.74	20.48
2	15,702	170,562	2.08	22.56
3	18,594	189,156	2.46	25.02
4	48,234	237,390	6.38	31.40
5	105,132	342,522	13.90	45.30
6	115,884	458,406	15.33	60.63
7	60,162	518,568	7.96	68.58
8	51,186	569,754	6.77	75.35
9	33,810	603,564	4.47	79.82
10	18,174	621,738	2.40	82.23
11	16,218	637,956	2.14	84.37
12	14,220	652,176	1.88	86.25
13	11,148	663,324	1.47	87.73
14	10,062	673,386	1.33	89.06
15	11,568	684,954	1.53	90.59
16	10,308	695,262	1.36	91.95
17	13,488	708,750	1.78	93.73
18	12,564	721,314	1.66	95.40
19	13,962	735,276	1.85	97.24
20	9,348	744,624	1.24	98.48
21	5,916	750,540	0.78	99.26
22	2,130	752,670	0.28	99.54
23	3,708	756,378	0.49	100.03
24	-252	756,126	-0.03	100.00

Table 43. Age, sex, and size composition of sockeye salmon escapement, Igushik River, 1991.

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 1: 22 June - 6 July							
Males	310	12,381	228,738	310	1,238	3,405	246,382
Percent	0.07	2.70	49.90	0.07	0.27	0.74	53.75
Sample Size	1	40	739	1	4	11	796
Mean Length	595	525	589	496	622	588	586
Std. Error		4	1		19	5	1
Sample Size	1	39	737	1	4	11	793
Females	310	13,619	193,762	619		3,714	212,024
Percent	0.07	2.97	42.27	0.14		0.81	46.25
Sample Size	1	44	626	2		12	685
Mean Length	565	504	549	525		548	546
Std. Error		5	1	27		7	1
Sample Size	1	43	624	2		11	681
Both Sexes	620	26,000	422,500	929	1,238	7,119	458,406
Percent	0.14	5.67	92.17	0.20	0.27	1.55	100.00
Sample Size	2	84	1,365	3	4	23	1,481
Mean Length	580	514	570	515	622	567	567
Std. Error		3	1	27	19	4	1
Sample Size	2	82	1,361	3	4	22	1,474
Sample Period 2: 7 - 9 July							
Males		2,649	65,427		530	1,589	70,195
Percent		1.82	45.07		0.37	1.09	48.36
Sample Size		10	247		2	6	265
Mean Length		523	590		595	600	588
Std. Error		11	2		4	11	2
Sample Size		10	246		2	6	264
Females		1,060	73,108	265	265	265	74,963
Percent		0.73	50.36	0.18	0.18	0.18	51.64
Sample Size		4	276	1	1	1	283
Mean Length		531	549	560	564	574	549
Std. Error		18	1				1
Sample Size		4	274	1	1	1	281
Both Sexes		3,709	138,535	265	795	1,854	145,158
Percent		2.56	95.44	0.18	0.55	1.28	100.00
Sample Size		14	523	1	3	7	548
Mean Length		525	568	560	585	596	568
Std. Error		9	1		4	11	1
Sample Size		14	520	1	3	7	545
Sample Period 3: 10 - 15 July							
Males		691	35,079		346	691	36,807
Percent		0.85	43.10		0.43	0.85	45.22
Sample Size		4	203		2	4	213
Mean Length		502	593		580	572	591
Std. Error		14	2		42	5	2
Sample Size		3	203		2	4	212
Females		5,357	37,498	691	173	864	44,583
Percent		6.58	46.07	0.85	0.21	1.06	54.78
Sample Size		31	217	4	1	5	258
Mean Length		502	546	494	546	556	540
Std. Error		5	2	14		12	1
Sample Size		31	216	4	1	5	257
Both Sexes		6,048	72,577	691	519	1,555	81,390
Percent		7.43	89.17	0.85	0.64	1.91	100.00
Sample Size		35	420	4	3	9	471
Mean Length		502	569	494	569	563	563
Std. Error		5	1	14	42	7	1
Sample Size		34	419	4	3	9	469

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Table 43. (p 2 of 2)

	Age Group						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
Sample Period 4: 16 - 24 July							
Males		1,427	32,821			535	34,783
Percent		2.01	46.12			0.75	48.87
Sample Size		8	184			3	195
Mean Length		535	589			618	587
Std. Error		10	2			9	2
Sample Size		8	184			3	195
Females		6,957	28,361	357		714	36,389
Percent		9.77	39.85	0.50		1.00	51.13
Sample Size		39	159	2		4	204
Mean Length		520	543	505		547	538
Std. Error		4	2	3		9	2
Sample Size		39	158	2		4	203
Both Sexes		8,384	61,182	357		1,249	71,172
Percent		11.78	85.96	0.50		1.75	100.00
Sample Size		47	343	2		7	399
Mean Length		522	568	505		577	562
Std. Error		4	1	3		6	1
Sample Size		47	342	2		7	398
All Periods Combined:							
Males	310	17,148	362,065	310	2,114	6,220	388,167
Percent	0.04	2.27	47.88	0.04	0.28	0.82	51.34
Sample Size	1	62	1,373	1	8	24	1,469
Mean Length	595	524	589	496	608	592	587
Std. Error		4	1		13	4	1
Sample Size	1	60	1,370	1	8	24	1,464
Females	310	26,993	332,729	1,932	438	5,557	367,959
Percent	0.04	3.57	44.00	0.26	0.06	0.73	48.66
Sample Size	1	118	1,278	9	2	22	1,430
Mean Length	565	509	548	515	557	550	545
Std. Error		3	1	12		5	1
Sample Size	1	117	1,272	9	2	21	1,422
Both Sexes	620	44,141	694,794	2,242	2,552	11,777	756,126
Percent	0.08	5.84	91.89	0.30	0.34	1.56	100.00
Sample Size	2	180	2,651	10	10	46	2,899
Mean Length	580	515	570	512	600	572	566
Std. Error		2	0	12	13	3	0
Sample Size	2	177	2,642	10	10	45	2,886

Table 44. Age and sex composition of sockeye salmon estimated catch and escapement, Nushagak River, 1991.

	Age Group							Total
	0.2	0.3	1.2	0.4	1.3	1.4	2.3	
	<u>Catch</u>							
Males	46,332	273,639	19,824	27,489	217,945	2,598	3,026	590,853
Percent	2.60	15.35	1.11	1.54	12.22	0.15	0.17	33.14
Females	7,233	456,861	5,644	17,465	195,455	4,490	9,984	697,132
Percent	0.41	25.62	0.32	0.98	10.96	0.25	0.56	39.10
Both Sexes	53,565	730,500	25,468	44,954	413,400	7,088	13,010	1,287,985
Percent	3.00	40.97	1.43	2.52	23.18	0.40	0.73	72.23
	<u>Escapement</u>							
Males	13,049	121,282	9,211	7,676	150,451	2,303	768	304,740
Percent	0.73	6.80	0.52	0.43	8.44	0.13	0.04	17.09
Females	1,535	70,620	2,303	4,606	105,929	3,070	2,303	190,366
Percent	0.09	3.96	0.13	0.26	5.94	0.17	0.13	10.68
Both Sexes	14,584	191,902	11,514	12,282	256,380	5,373	3,071	495,106
Percent	0.82	10.76	0.65	0.69	14.38	0.30	0.17	27.77
	<u>Catch and Escapement</u>							
Males	59,381	394,921	29,035	35,165	368,396	4,901	3,794	895,593
Percent	3.33	22.15	1.63	1.97	20.66	0.27	0.21	50.23
Females	8,768	527,481	7,947	22,071	301,384	7,560	12,287	887,498
Percent	0.49	29.58	0.45	1.24	16.90	0.42	0.69	49.77
Both Sexes	68,149	922,402	36,982	57,236	669,780	12,461	16,081	1,783,091
Percent	3.82	51.73	2.07	3.21	37.56	0.70	0.90	100.00

Table 45. Daily sockeye salmon escapement counts, Nushagak River
(Portage Creek), 1991.

Date	Daily Count ^a	Cumulative Count	Daily Percent of Total	Cumulative Percent
June 15	411	411	0.08	0.08
16	855	1,266	0.17	0.26
17	247	1,513	0.05	0.31
18	219	1,732	0.04	0.35
19	137	1,869	0.03	0.38
20	314	2,183	0.06	0.44
21	867	3,050	0.18	0.62
22	1,565	4,615	0.32	0.93
23	3,407	8,022	0.69	1.62
24	8,830	16,852	1.78	3.40
25	11,476	28,328	2.32	5.72
26	10,667	38,995	2.15	7.88
27	5,084	44,079	1.03	8.90
28	13,962	58,041	2.82	11.72
29	54,173	112,214	10.94	22.66
30	16,097	128,311	3.25	25.92
July 1	60,848	189,159	12.29	38.21
2	17,820	206,979	3.60	41.80
3	91,915	298,894	18.56	60.37
4	97,608	396,502	19.71	80.08
5	34,640	431,142	7.00	87.08
6	3,670	434,812	0.74	87.82
7	2,024	436,836	0.41	88.23
8	1,492	438,328	0.30	88.53
9	1,189	439,517	0.24	88.77
10	1,676	441,193	0.34	89.11
11	3,068	444,261	0.62	89.73
12	4,318	448,579	0.87	90.60
13	2,324	450,903	0.47	91.07
14	3,346	454,249	0.68	91.75
15	2,302	456,551	0.46	92.21
16	3,926	460,477	0.79	93.01
17	6,548	467,025	1.32	94.33
18	9,526	476,551	1.92	96.25
19	8,750	485,301	1.77	98.02
20	3,205	488,506	0.65	98.67
21	1,840	490,346	0.37	99.04
22	1,886	492,232	0.38	99.42
23	1,402	493,634	0.28	99.70
24	298	493,932	0.06	99.76
25	176	494,108	0.04	99.80
26	179	494,287	0.04	99.83

-Continued-

Table 45. (p 2 of 2)

Date	Daily Count ^a	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 27	36	494,323	0.01	99.84
28	101	494,424	0.02	99.86
29	367	494,791	0.07	99.94
30	152	494,943	0.03	99.97
31	64	495,007	0.01	99.98
Aug 1	65	495,072	0.01	99.99
2	0	495,072	0.00	99.99
3	0	495,072	0.00	99.99
4	0	495,072	0.00	99.99
5	0	495,072	0.00	99.99
6	0	495,072	0.00	99.99
7	0	495,072	0.00	99.99
8	0	495,072	0.00	99.99
9	5	495,077	0.00	99.99
10	7	495,084	0.00	100.00
11	10	495,094	0.00	100.00
12	9	495,103	0.00	100.00
13	3	495,106	0.00	100.00

^a Escapement numbers represent sonar counts made at Portage Creek.

Table 46. Age, sex, and size composition of sockeye salmon escapement, Nushagak River (Portage Creek), 1991.

	Age Group							
	0.2	0.3	1.2	0.4	1.3	1.4	2.3	Total
All Periods Combined								
Males	13,049	121,282	9,211	7,676	150,451	2,303	768	304,740
Percent	2.64	24.50	1.86	1.55	30.39	0.47	0.16	61.55
Sample Size	17	158	12	10	196	3	1	397
Mean Length	407	548	448	612	568	579	603	551
Std. Error	4	4	12	15	2	23		2
Sample Size	17	156	12	10	193	3	1	392
Females	1,535	70,620	2,303	4,606	105,929	3,070	2,303	190,366
Percent	0.31	14.26	0.47	0.93	21.40	0.62	0.47	38.45
Sample Size	2	92	3	6	138	4	3	248
Mean Length	482	536	476	580	541	584	552	540
Std. Error	49	2	11	7	2	13	12	1
Sample Size	2	88	3	6	134	4	3	240
Both Sexes	14,584	191,902	11,514	12,282	256,380	5,373	3,071	495,106
Percent	2.95	38.76	2.33	2.48	51.78	1.09	0.62	100.00
Sample Size	19	250	15	16	334	7	4	645
Mean Length	414	544	454	600	557	582	565	546
Std. Error	6	3	10	10	2	12	12	1
Sample Size	19	244	15	16	327	7	4	632

Table 47. Age, sex, and size composition of chinook salmon commercial catch, Nushagak District, 1991.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined						
Males	227	4,222	6,074	3,638	97	14,258
Percent	0.99	18.44	26.53	15.89	0.42	62.27
Sample Size	7	130	187	112	3	439
Mean Length	421	576	770	875	967	735
Std. Error	21	6	6	7	31	4
Sample Size	7	129	187	112	3	438
Mean Weight	1.69	3.75	8.72	12.32	16.25	8.11
Std. Error	0.38	0.19	0.22	0.37	3.00	0.15
Sample Size	4	71	118	77	2	272
Females		650	3,573	4,157	260	8,640
Percent		2.84	15.60	18.15	1.14	37.73
Sample Size		20	110	128	8	266
Mean Length		638	791	857	887	814
Std. Error		19	5	5	16	3
Sample Size		20	110	128	8	266
Mean Weight		4.57	8.78	10.94	11.91	9.60
Std. Error		0.43	0.27	0.20	0.63	0.15
Sample Size		11	59	90	7	167
Both Sexes	227	4,872	9,647	7,795	357	22,898
Percent	0.99	21.28	42.13	34.04	1.56	100.00
Sample Size	7	150	297	240	11	705
Mean Length	421	584	778	866	909	765
Std. Error	21	6	4	4	14	3
Sample Size	7	149	297	240	11	704
Mean Weight	1.69	3.86	8.74	11.58	13.09	8.67
Std. Error	0.38	0.18	0.17	0.20	0.93	0.11
Sample Size	4	82	177	167	9	439

Table 48. Daily escapement counts of chinook, chum, pink, and coho salmon, Nushagak River (Portage Creek), 1991.

		Chinook		Chum		Pink		Coho	
Date		Daily ^a	Cum	Daily	Cum	Daily	Cum	Daily	Cum
June	5	290	290	0	0	0	0	0	0
	6	473	763	0	0	0	0	0	0
	7	356	1,119	0	0	0	0	0	0
	8	322	1,441	0	0	0	0	0	0
	9	314	1,755	0	0	0	0	0	0
	10	443	2,198	0	0	0	0	0	0
	11	342	2,540	0	0	0	0	0	0
	12	386	2,926	0	0	0	0	0	0
	13	330	3,256	0	0	0	0	0	0
	14	303	3,559	0	0	0	0	0	0
	15	2,184	5,743	696	696	0	0	0	0
	16	7,492	13,235	2,118	2,814	0	0	0	0
	17	3,375	16,610	716	3,530	0	0	0	0
	18	2,985	19,595	598	4,128	0	0	0	0
	19	1,747	21,342	387	4,515	0	0	0	0
	20	1,682	23,024	545	5,060	0	0	0	0
	21	1,384	24,408	965	6,025	0	0	0	0
	22	2,196	26,604	1,743	7,768	0	0	0	0
	23	4,807	31,411	3,751	11,519	0	0	0	0
	24	24,266	55,677	33,521	45,040	0	0	0	0
	25	11,349	67,026	12,433	57,473	0	0	0	0
	26	9,022	76,048	11,476	68,949	0	0	0	0
	27	5,098	81,146	12,388	81,337	0	0	0	0
	28	5,515	86,661	8,224	89,561	0	0	0	0
	29	2,379	89,040	3,466	93,027	0	0	0	0
	30	7,422	96,462	8,773	101,800	0	0	0	0
July	1	2,866	99,328	6,592	108,392	0	0	0	0
	2	9,686	109,014	8,728	117,120	0	0	0	0
	3	965	109,979	17,840	134,960	0	0	0	0
	4	2,927	112,906	59,888	194,848	0	0	0	0
	5	1,636	114,542	18,440	213,288	0	0	0	0
	6	1,894	116,436	1,403	214,691	0	0	0	0
	7	977	117,413	835	215,526	0	0	0	0
	8	780	118,193	635	216,161	0	0	0	0
	9	561	118,754	499	216,660	0	0	0	0
	10	580	119,334	734	217,394	0	0	0	0
	11	1,142	120,476	1,296	218,690	0	0	0	0
	12	1,970	122,446	1,632	220,322	0	0	0	0
	13	919	123,365	975	221,297	0	0	0	0
	14	1,166	124,531	1,429	222,726	0	0	0	0
	15	897	125,428	1,084	223,810	0	0	127	127

-Continued-

Table 48. (p 2 of 2)

Date	Chinook		Chum		Pink		Coho	
	Daily ^a	Cum	Daily	Cum	Daily	Cum	Daily	Cum
16	1,350	126,778	1,844	225,654	0	0	221	348
17	1,564	128,342	3,478	229,132	0	0	570	918
18	920	129,262	3,018	232,150	0	0	706	1,624
19	1,150	130,412	3,901	236,051	0	0	1,133	2,757
20	1,180	131,592	2,922	238,973	0	0	515	3,272
21	676	132,268	1,756	240,729	0	0	736	4,008
22	683	132,951	3,732	244,461	0	0	2,261	6,269
23	490	133,441	2,394	246,855	0	0	978	7,247
24	144	133,585	567	247,422	0	0	256	7,503
25	73	133,658	344	247,766	0	0	99	7,602
26	64	133,722	322	248,088	0	0	159	7,761
27	26	133,748	122	248,210	0	0	568	8,329
28	111	133,859	406	248,616	0	0	1,959	10,288
29	456	134,315	1,588	250,204	0	0	7,552	17,840
30	517	134,832	756	250,960	0	0	3,117	20,957
31	90	134,922	269	251,229	0	0	1,211	22,168
Aug 1	48	134,970	263	251,492	0	0	1,242	23,410
2	0	134,970	327	251,819	0	0	3,016	26,426
3	0	134,970	137	251,956	0	0	1,385	27,811
4	0	134,970	118	252,074	0	0	1,115	28,926
5	0	134,970	76	252,150	0	0	745	29,671
6	0	134,970	158	252,308	0	0	1,424	31,095
7	0	134,970	87	252,395	0	0	812	31,907
8	0	134,970	41	252,436	0	0	445	32,352
9	15	134,985	0	252,436	0	0	591	32,943
10	22	135,007	0	252,436	0	0	764	33,707
11	20	135,027	0	252,436	0	0	871	34,578
12	18	135,045	0	252,436	0	0	1,224	35,802
13	9	135,054	0	252,436	0	0	1,083	36,885
14	0	135,054	0	252,436	0	0	1,526	38,411
15	0	135,054	0	252,436	0	0	1,618	40,029
16	0	135,054	0	252,436	0	0	377	40,406
17	0	135,054	0	252,436	0	0	164	40,570
18	0	135,054	0	252,436	0	0	268	40,838
19	0	135,054	0	252,436	0	0	128	40,966
20	0	135,054	0	252,436	0	0	144	41,110
21	0	135,054	0	252,436	0	0	43	41,153

^a Escapement numbers represent sonar counts made at Portage Creek sonar site.

Table 49. Age, sex, and size composition of chinook salmon escapement, Nushagak River (Portage Creek), 1991.

	Age Group						
	1.1	1.2	1.3	1.4	1.5	2.4	Total
All Periods Combined							
Males	498	27,160	29,154	20,682	498		77,992
Percent	0.37	20.11	21.59	15.31	0.37		57.75
Sample Size	2	109	117	83	2		313
Mean Length	371	551	731	852	883		699
Std. Error	35	7	10	11	23		5
Sample Size	2	109	117	83	2		313
Females		11,462	20,183	23,922	1,246	249	57,062
Percent		8.49	14.94	17.71	0.92	0.18	42.25
Sample Size		46	81	96	5	1	229
Mean Length		589	759	844	937	800	765
Std. Error		13	12	7	8		6
Sample Size		46	81	96	5	1	229
Both Sexes	498	38,622	49,337	44,604	1,744	249	135,054
Percent	0.37	28.60	36.53	33.03	1.29	0.18	100.00
Sample Size	2	155	198	179	7	1	542
Mean Length	371	563	742	848	922	800	727
Std. Error	35	7	8	6	9		4
Sample Size	2	155	198	179	7	1	542

Table 50. Age, sex, and size composition of chinook salmon sport harvest, lower Nushagak and mid-Mulchatna Rivers, 1991.^a

	Age Group				Total ^b
	1.2	1.3	1.4	1.5	
<u>Males</u>					
Percent	13.0	30.0	20.6	1.9	65.5
Sample Size	35	94	68	6	203
Mean Length	593	681	829	813	717
Std. Error	14.75	11.60	13.31	65.63	8.90
Sample Size	35	93	68	6	239
Mean Weight	3.8	5.5	9.9	10.9	6.8
Std. Error	0.47	0.26	0.50	2.70	0.26
Sample Size	35	94	68	6	240
<u>Females</u>					
Percent	3.9	11.4	17.4	1.8	34.5
Sample Size	8	29	56	7	100
Mean Length	578	729	844	862	797
Std. Error	18.99	19.76	18.38	24.89	13.34
Sample Size	8	28	55	7	108
Mean Weight	3.7	6.6	10.5	10.1	8.9
Std. Error	0.26	0.44	0.31	0.87	0.30
Sample Size	8	29	56	7	110
<u>All Fish</u>					
Percent	16.9	41.4	38.0	3.7	100.00
Sample Size	43	123	124	13	303
Mean Length	590	692	836	839	742
Std. Error	12.46	10.15	11.01	32.33	7.65
Sample Size	43	121	123	13	347
Mean Weight	3.7	5.8	10.2	10.5	7.5
Std. Error	0.38	0.23	0.30	1.27	0.21
Sample Size	43	123	124	13	350

^a Sport Fish Division creel census data (Dunaway and Bingham 1992).

^b Includes both aged and unaged samples.

Table 51. Age, sex, and size composition of
chum salmon commercial catch,
Nushagak District, 1991.

	Age Group			
	0.2	0.3	0.4	Total
Sample Period 1: 22 June - 3 July				
Males	100	9,116	3,807	13,023
Percent	0.21	19.44	8.12	27.78
Sample Size	1	91	38	130
Mean Length	595	565	593	574
Std. Error		2	5	2
Sample Size	1	91	38	130
Mean Weight	3.40	2.94	3.28	3.04
Std. Error		0.11	0.24	0.11
Sample Size	1	16	6	23
Females	1,202	21,237	11,420	33,859
Percent	2.56	45.30	24.36	72.22
Sample Size	12	212	114	338
Mean Length	525	543	557	547
Std. Error	5	1	2	1
Sample Size	12	212	114	338
Mean Weight	2.62	2.55	2.58	2.56
Std. Error	0.38	0.06	0.06	0.04
Sample Size	3	52	26	81
Both Sexes	1,302	30,353	15,227	46,882
Percent	2.78	64.74	32.48	100.00
Sample Size	13	303	152	468
Mean Length	530	549	566	554
Std. Error	5	1	2	1
Sample Size	13	303	152	468
Mean Weight	2.68	2.67	2.76	2.70
Std. Error	0.38	0.05	0.08	0.04
Sample Size	4	68	32	104
Sample Period 2: 4 - 23 July				
Males	3,515	97,645	48,822	149,982
Percent	0.84	23.32	11.66	35.82
Sample Size	9	250	125	384
Mean Length	532	566	594	574
Std. Error	9	2	4	2
Sample Size	9	250	125	384
Mean Weight	2.50	3.18	3.88	3.39
Std. Error		0.07	0.13	0.06
Sample Size	1	56	42	99
Females	5,859	185,916	76,944	268,719
Percent	1.40	44.40	18.38	64.18
Sample Size	15	476	197	688
Mean Length	522	538	562	544
Std. Error	6	1	2	1
Sample Size	15	476	197	688
Mean Weight	2.40	2.47	2.82	2.57
Std. Error	0.06	0.03	0.05	0.03
Sample Size	4	129	59	192
Both Sexes	9,374	283,561	125,766	418,701
Percent	2.24	67.72	30.04	100.00
Sample Size	24	726	322	1,072
Mean Length	526	548	574	555
Std. Error	5	1	2	1
Sample Size	24	726	322	1,072
Mean Weight	2.44	2.71	3.23	2.86
Std. Error	0.06	0.03	0.06	0.03
Sample Size	5	185	101	291

-Continued-

Table 51. (p 2 of 2)

	Age Group			
	0.2	0.3	0.4	Total
All Periods Combined:				
Males	3,615	106,761	52,629	163,005
Percent	0.78	22.93	11.30	35.01
Sample Size	10	341	163	514
Mean Length	533	566	594	574
Std. Error	9	2	3	2
Sample Size	10	341	163	514
Mean Weight	2.52	3.16	3.84	3.36
Std. Error		0.06	0.12	0.06
Sample Size	2	72	48	122
Females	7,061	207,153	88,364	302,578
Percent	1.52	44.49	18.98	64.99
Sample Size	27	688	311	1,026
Mean Length	523	538	561	545
Std. Error	5	1	2	1
Sample Size	27	688	311	1,026
Mean Weight	2.44	2.48	2.79	2.57
Std. Error	0.08	0.03	0.04	0.02
Sample Size	7	181	85	273
Both Sexes	10,676	313,914	140,993	465,583
Percent	2.29	67.42	30.28	100.00
Sample Size	37	1,029	474	1,540
Mean Length	526	548	573	555
Std. Error	5	1	2	1
Sample Size	37	1,029	474	1,540
Mean Weight	2.47	2.71	3.18	2.85
Std. Error	0.08	0.03	0.05	0.03
Sample Size	9	253	133	395

Table 52. Age, sex, and size composition of chum salmon escapement, Nushagak River (Portage Creek), 1991.

	Age Group				
	0.2	0.3	0.4	0.5	Total
All Periods Combined					
Males	2,075	82,301	58,786	692	143,854
Percent ^a	0.82	32.60	23.29	0.27	56.99
Sample Size	3	119	85	1	208
Mean Length	554	577	593	630	583
Std. Error	9	3	4		2
Sample Size	3	118	85	1	207
Females	692	67,085	40,113	692	108,582
Percent ^a	0.27	26.58	15.89	0.27	43.01
Sample Size	1	97	58	1	157
Mean Length	540	544	563	625	552
Std. Error		3	4		2
Sample Size	1	97	58	1	157
Both Sexes	2,767	149,386	98,899	1,384	252,436
Percent ^a	1.10	59.18	39.18	0.55	100.00
Sample Size	4	216	143	2	365
Mean Length	551	562	581	628	570
Std. Error	9	2	3		2
Sample Size	4	215	143	2	364

^a Based on a sample size of 365 and given these estimated age proportions, this sample size would estimate true age composition within 5 percentage points 90% of the time.

Table 53. Age, sex, and size composition of coho salmon escapement, Nushagak River (Portage Creek), 1991.

	Age Group		
	1.1	2.1	Total
All Periods Combined			
Males	3,079	20,157	23,236
Percent ^a	7.48	48.98	56.46
Sample Size	11	72	83
Mean Length	534	504	508
Std. Error	15	6	5
Sample Size	11	72	83
Females	1,680	16,237	17,917
Percent ^a	4.08	39.46	43.54
Sample Size	6	58	64
Mean Length	531	552	550
Std. Error	17	6	5
Sample Size	6	58	64
Both Sexes	4,759	36,394	41,153
Percent ^a	11.56	88.44	100.00
Sample Size	17	130	147
Mean Length	533	525	526
Std. Error	11	4	4
Sample Size	17	130	147

^a Based on a sample size of 147 and given these estimated age proportions, this sample size would estimate true age composition within 10 percentage points 95% of the time.

Table 54. Commercial salmon catch by period and species, Togiak District, 1991.

		Catch (number of fish)					Total
Period ^a		Sockeye	Chinook	Chum	Pink	Coho	
June	4	0	2	0	0	0	2
	6	2	2	0	0	0	4
	7	0	2	0	0	0	2
	10	21	7	42	0	0	72
	11	108	70	46	0	0	224
	12	149	78	107	0	0	334
	13	155	69	79	0	0	303
	14	38	60	59	0	0	157
	15	31	63	43	0	0	137
	18	559	270	435	0	0	1,264
	19	1,007	498	625	0	0	2,130
	20	354	159	384	0	0	897
July	1	4,224	136	729	0	0	5,089
	2	16,084	1,330	5,923	2	0	23,339
	3	20,188	1,009	7,602	1	0	28,800
	4	19,932	549	4,883	0	0	25,364
	5	8,083	76	2,317	0	0	10,476
	8	14,959	604	6,078	3	0	21,644
	9	20,859	470	8,732	2	0	30,063
	10	20,491	307	9,762	1	0	30,561
	11	22,043	199	7,029	3	0	29,274
	12	17,656	119	3,150	0	0	20,925
	13	4,485	61	904	1	0	5,451
	15	13,498	214	5,497	2	0	19,211
	16	5,064	44	2,891	1	0	8,000
	17	27,392	95	10,398	6	0	37,891
	18	25,095	69	9,162	1	0	34,327
	19	30,289	70	12,659	6	0	43,024
	20	39,217	69	13,254	8	0	52,548
	21	32,604	51	9,810	9	0	42,474
	22	38,572	63	18,809	5	0	57,449
	23	37,142	61	23,966	1	0	61,170
	24	25,770	37	15,674	2	1	41,484
	25	15,459	25	9,291	1	0	24,776
	26	13,249	22	10,734	0	4	24,009
	27	536	0	72	0	0	608
	29	12,140	10	5,706	7	4	17,867
	30	12,789	17	9,802	3	11	22,622
	31	10,163	14	7,347	7	11	17,542

-Continued-

Table 54. (p 2 of 2)

		Catch (number of fish)					Total
Period ^a		Sockeye	Chinook	Chum	Pink	Coho	
Aug.	1	8,530	16	5,003	4	26	13,579
	2	7,403	11	2,285	11	22	9,732
	3	6,230	12	3,137	3	40	9,422
	4	2,420	7	994	2	7	3,430
	5	7,588	11	4,145	7	64	11,815
	6	6,849	9	3,672	11	92	10,633
	7	4,767	13	2,427	3	94	7,304
	8	2,647	6	1,779	3	127	4,562
	9	2,230	0	851	1	75	3,157
	10	1,667	2	573	4	140	2,386
	14	22	0	0	0	3	25
	19	346	0	49	0	753	1,148
	20	645	0	130	0	1,922	2,697
	21	201	0	67	0	875	1,143
Total		561,952	7,088	249,113	121	4,271	822,545
Percent		68.3	0.9	30.3	0.0 ^b	0.5	100.0

^a See Table 2 for emergency order adjustments in the regular weekly fishing schedule.

^b Represented < 0.1%

Table 55. Commercial salmon catch by period and species, Togiak River Section, Togiak District, 1991.

		Catch (number of fish)					Total
Period ^a		Sockeye	Chinook	Chum	Pink	Coho	
June	7	0	2	0	0	0	2
	11	7	38	5	0	0	50
	12	10	33	16	0	0	59
	13	12	28	11	0	0	51
	14	8	12	12	0	0	32
	18	252	233	89	0	0	574
	19	400	438	293	0	0	1,131
	20	89	101	73	0	0	263
July	1	1,610	90	393	0	0	2,093
	2	11,788	1,289	5,458	2	0	18,537
	3	15,809	991	7,338	1	0	24,139
	4	14,510	525	4,414	0	0	19,449
	5	6,530	69	2,145	0	0	8,744
	8	13,724	592	5,242	3	0	19,561
	9	18,125	455	8,048	2	0	26,630
	10	17,353	296	9,522	1	0	27,172
	11	18,941	187	6,378	3	0	25,509
	12	16,168	114	3,034	0	0	19,316
	13	4,485	61	904	1	0	5,451
	15	13,051	209	5,076	2	0	18,338
	16	4,840	42	2,690	1	0	7,573
	17	26,664	89	9,620	6	0	36,379
	18	24,478	66	8,808	1	0	33,353
	19	29,090	65	12,548	6	0	41,709
	20	39,217	69	13,254	8	0	52,548
	21	32,604	51	9,810	9	0	42,474
	22	38,572	63	18,809	5	0	57,449
	23	36,041	61	23,829	1	0	59,932
	24	23,779	36	15,418	2	1	39,236
	25	15,459	25	9,291	1	0	24,776
	26	13,249	22	10,734	0	4	24,009
	27	536	0	72	0	0	608
	29	12,140	10	5,706	7	4	17,867
	30	12,409	16	9,763	3	11	22,202
	31	9,363	12	7,091	6	9	16,481

-Continued-

Table 55. (p 2 of 2)

Period ^a		Catch (number of fish)					Total
		Sockeye	Chinook	Chum	Pink	Coho	
Aug.	1	8,202	15	4,829	4	26	13,076
	2	7,177	7	2,168	8	20	9,380
	3	6,068	12	3,013	3	37	9,133
	4	2,420	7	994	2	7	3,430
	5	7,588	11	4,145	7	64	11,815
	6	6,797	9	3,620	11	90	10,527
	7	4,767	13	2,427	3	94	7,304
	8	2,647	6	1,779	3	127	4,562
	9	2,230	0	851	1	75	3,157
	10	1,667	2	573	4	140	2,386
	14	22	0	0	0	3	25
	19	346	0	49	0	753	1,148
	20	645	0	130	0	1,922	2,697
	21	201	0	67	0	875	1,143
Total		522,090	6,472	240,539	117	4,262	773,480
Percent		67.5	0.8	31.1	0.0 ^b	0.6	100.0

^a Togiak River Section opened four days per week. See Table 2 for emergency order adjustments in weekly fishing periods.

^b Represented < 0.1%

Table 56. Age and sex composition of sockeye salmon catch and escapement, Togiak River Section, Togiak District, 1991.

	Age Group									
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	2.4	Total
	<u>Catch</u>									
Males	175	2,451	54,369	336	135,107	34,685	593	35,352		263,068
Percent	0.02	0.32	7.00	0.04	17.39	4.47	0.08	4.55		33.87
Females		3,804	41,117	336	158,407	29,940	179	25,239		259,022
Percent		0.49	5.29	0.04	20.39	3.85	0.02	3.25		33.35
Both Sexes	175	6,255	95,486	672	293,514	64,625	772	60,591		522,090
Percent	0.02	0.81	12.29	0.09	37.79	8.32	0.10	7.80		67.21
	<u>Escapement^a</u>									
Males	227	81	41,330		76,873	5,870		7,220		131,601
Percent	0.03	0.01	5.32		9.90	0.76		0.93		16.94
Females	227	453	46,940		58,222	10,484		6,595	161	123,082
Percent	0.03	0.06	6.04		7.50	1.35		0.85	0.02	15.85
Both Sexes	454	534	88,270		135,095	16,354		13,815	161	254,683
Percent	0.06	0.07	11.36		17.39	2.11		1.78	0.02	32.79
	<u>Catch and Escapement</u>									
Males	402	2,532	95,699	336	211,980	40,555	593	42,572		394,669
Percent	0.05	0.33	12.32	0.04	27.29	5.22	0.08	5.48		50.81
Females	227	4,257	88,057	336	216,629	40,424	179	31,834	161	382,104
Percent	0.03	0.55	11.34	0.04	27.89	5.20	0.02	4.10	0.02	49.19
Both Sexes	629	6,789	183,756	672	428,609	80,979	772	74,406	161	776,773
Percent	0.08	0.87	23.66	0.09	55.18	10.43	0.10	9.58	0.02	100.00

^a An additional 23,720 sockeye salmon were counted in Togiak River (15,980 in the mainstem below the tower and 7,740 in tributaries) but not sampled, bringing the Togiak River escapement to 278,403.

Table 57. Age, sex, and size composition of sockeye salmon commercial catch, Togiak River Section, Togiak District, 1991.

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 1: 11 - 20 June									
Males	4	16	64		353	12	8	16	473
Percent	0.51	2.06	8.23		45.37	1.54	1.03	2.06	60.80
Sample Size	1	4	16		88	3	2	4	118
Mean Length	512	580	523		576	541	601	580	568
Std. Error		8	6		3	14	29	19	3
Sample Size	1	4	16		88	3	2	4	118
Mean Weight	2.50	3.38	3.30		3.44	2.70		3.90	3.41
Std. Error		0.12			0.12	0.30			0.09
Sample Size	1	4	1		28	2		1	37
Females		12	4		261	4	8	16	305
Percent		1.54	0.51		33.55	0.51	1.03	2.06	39.20
Sample Size		3	1		65	1	2	4	76
Mean Length		547	465		548	515	565	554	547
Std. Error		15			3		4	5	3
Sample Size		3	1		64	1	2	4	75
Mean Weight		2.60	1.60		2.79			2.80	2.77
Std. Error		0.20			0.07			0.10	0.06
Sample Size		2	1		19			2	24
Both Sexes	4	28	68		614	16	16	32	778
Percent	0.51	3.60	8.74		78.92	2.06	2.06	4.11	100.00
Sample Size	1	7	17		153	4	4	8	194
Mean Length	512	566	519		564	535	583	567	560
Std. Error		8	6		2	14	15	10	2
Sample Size	1	7	17		152	4	4	8	193
Mean Weight	2.50	3.05	3.20		3.16	2.70		3.35	3.16
Std. Error		0.11			0.08	0.30		0.10	0.06
Sample Size	1	6	2		47	2		3	61
Sample Period 2: 1 - 5 July									
Males	171	1,029	4,888	86	18,778	600	86	1,200	26,838
Percent	0.34	2.05	9.73	0.17	37.37	1.19	0.17	2.39	53.41
Sample Size	2	12	57	1	219	7	1	14	313
Mean Length	492	566	522	590	582	536	598	580	568
Std. Error	4	8	3		2	5		6	1
Sample Size	2	12	57	1	219	7	1	14	313
Mean Weight	2.00	3.47	2.49		3.67	2.70	3.50	3.47	3.40
Std. Error		0.34	0.12		0.05	0.10		0.09	0.05
Sample Size	1	3	14		70	3	1	7	99
Females		1,715	943	86	19,979	86	171	429	23,409
Percent		3.41	1.88	0.17	39.76	0.17	0.34	0.85	46.59
Sample Size		20	11	1	233	1	2	5	273
Mean Length		540	506	517	550	514	585	543	548
Std. Error		4	5		1		7	11	1
Sample Size		20	11	1	232	1	2	5	272
Mean Weight		2.80	2.10		2.87			2.90	2.83
Std. Error		0.20	0.09		0.05				0.04
Sample Size		2	4		68			1	75
Both Sexes	171	2,744	5,831	172	38,757	686	257	1,629	50,247
Percent	0.34	5.46	11.60	0.34	77.13	1.37	0.51	3.24	100.00
Sample Size	2	32	68	2	452	8	3	19	586
Mean Length	492	550	519	554	565	533	589	570	559
Std. Error	4	4	2		1	5	7	6	1
Sample Size	2	32	68	2	451	8	3	19	585
Mean Weight	2.00	3.05	2.43		3.26	2.70	3.50	3.32	3.14
Std. Error		0.18	0.10		0.04	0.10		0.09	0.03
Sample Size	1	5	18		138	3	1	8	174

-Continued-

Table 57. (p 2 of 3)

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 3: 8 - 13 July									
Males		633	12,655		28,052	1,687		1,476	44,503
Percent		0.71	14.25		31.59	1.90		1.66	50.12
Sample Size		3	60		133	8		7	211
Mean Length		590	526		580	529		586	563
Std. Error		6	3		2	10		5	2
Sample Size		3	60		133	8		7	211
Mean Weight			2.75		3.89	3.00		3.97	3.53
Std. Error			0.09		0.11	0.20		0.18	0.07
Sample Size			20		33	3		3	59
Females		1,055	3,586		37,542	1,055		1,055	44,293
Percent		1.19	4.04		42.28	1.19		1.19	49.88
Sample Size		5	17		178	5		5	210
Mean Length		540	512		549	522		559	546
Std. Error		6	7		2	9		10	2
Sample Size		5	17		178	5		5	210
Mean Weight		2.80	2.39		2.81	2.40		3.20	2.78
Std. Error		0.10	0.19		0.04			0.30	0.04
Sample Size		3	8		55	1		2	69
Both Sexes		1,688	16,241		65,594	2,742		2,531	88,796
Percent		1.90	18.29		73.87	3.09		2.85	100.00
Sample Size		8	77		311	13		12	421
Mean Length		559	523		562	527		575	554
Std. Error		4	3		1	7		5	1
Sample Size		8	77		311	13		12	421
Mean Weight		2.80	2.67		3.27	2.77		3.65	3.15
Std. Error		0.10	0.08		0.05	0.20		0.16	0.04
Sample Size		3	28		88	4		5	128
Sample Period 4: 15 - 20 July									
Males		250	13,734	250	38,206	6,742	499	6,492	66,173
Percent		0.18	10.00	0.18	27.82	4.91	0.36	4.73	48.18
Sample Size		1	55	1	153	27	2	26	265
Mean Length		572	521	600	582	530	608	589	565
Std. Error			3		2	4	25	4	1
Sample Size		1	55	1	153	27	2	26	265
Mean Weight			2.67		3.63	2.83	4.60	3.78	3.37
Std. Error			0.07		0.10	0.25		0.13	0.06
Sample Size			17		37	4	1	10	69
Females		499	11,986	250	46,196	5,244		6,992	71,167
Percent		0.36	8.73	0.18	33.64	3.82		5.09	51.82
Sample Size		2	48	1	185	21		28	285
Mean Length		534	505	604	549	510		548	538
Std. Error		15	2		2	4		4	1
Sample Size		2	48	1	183	21		28	283
Mean Weight			2.13	3.90	2.87	2.17		3.01	2.71
Std. Error			0.06		0.05	0.09		0.21	0.04
Sample Size			16	1	54	3		7	81
Both Sexes		749	25,720	500	84,402	11,986	499	13,484	137,340
Percent		0.55	18.73	0.36	61.45	8.73	0.36	9.82	100.00
Sample Size		3	103	2	338	48	2	54	550
Mean Length		546	514	602	564	521	608	568	551
Std. Error		15	2		1	3	25	3	1
Sample Size		3	103	2	336	48	2	54	548
Mean Weight			2.42	3.90	3.21	2.54	4.60	3.38	3.03
Std. Error			0.04		0.05	0.15		0.13	0.04
Sample Size			33	1	91	7	1	17	150

-Continued-

Table 57. (p 3 of 3)

	Age Group								
	0.2	0.3	1.2	0.4	1.3	2.2	1.4	2.3	Total
Sample Period 5: 21 July - 21 August									
Males		523	23,028		49,718	25,644		26,168	125,081
Percent		0.21	9.40		20.30	10.47		10.68	51.07
Sample Size		1	44		95	49		50	239
Mean Length		565	524		583	534		591	564
Std. Error			3		3	3		4	2
Sample Size		1	44		95	49		50	239
Mean Weight		3.60	2.52		3.62	2.74		3.66	3.25
Std. Error			0.08		0.08	0.08		0.15	0.05
Sample Size		1	6		32	10		15	64
Females		523	24,598		54,429	23,551		16,747	119,848
Percent		0.21	10.04		22.22	9.62		6.84	48.93
Sample Size		1	47		104	45		32	229
Mean Length		497	502		547	509		558	532
Std. Error			3		2	3		4	1
Sample Size		1	47		102	45		32	227
Mean Weight		2.00	2.19		2.78	2.13		2.80	2.53
Std. Error			0.05		0.07	0.07		0.15	0.04
Sample Size		1	14		36	18		6	75
Both Sexes		1,046	47,626		104,147	49,195		42,915	244,929
Percent		0.43	19.44		42.52	20.09		17.52	100.00
Sample Size		2	91		199	94		82	468
Mean Length		531	512		564	522		578	548
Std. Error			2		2	2		3	1
Sample Size		2	91		197	94		82	466
Mean Weight		2.80	2.35		3.18	2.45		3.32	2.90
Std. Error			0.04		0.05	0.05		0.11	0.03
Sample Size		2	20		68	28		21	139
All Periods Combined:									
Males	175	2,451	54,369	336	135,107	34,685	593	35,352	263,068
Percent	0.03	0.47	10.41	0.06	25.88	6.64	0.11	6.77	50.39
Sample Size	3	21	232	2	688	94	5	101	1,146
Mean Length	492	573	523	597	582	533	606	590	564
Std. Error	4	6	2		1	3	25	3	1
Sample Size	3	21	232	2	688	94	5	101	1,146
Mean Weight	2.01	3.51	2.61		3.69	2.77	4.44	3.69	3.34
Std. Error		0.34	0.04		0.05	0.07		0.11	0.03
Sample Size	2	8	58		200	22	2	36	328
Females		3,804	41,117	336	158,407	29,940	179	25,239	259,022
Percent		0.73	7.88	0.06	30.34	5.73	0.03	4.83	49.61
Sample Size		31	124	2	765	73	4	74	1,073
Mean Length		533	504	582	548	510	584	555	537
Std. Error		4	2		1	2	7	3	1
Sample Size		31	124	2	759	73	4	74	1,067
Mean Weight		2.67	2.19	3.90	2.82	2.15		2.88	2.65
Std. Error		0.13	0.04		0.03	0.06		0.12	0.02
Sample Size		8	43	1	232	22		18	324
Both Sexes	175	6,255	95,486	672	293,514	64,625	772	60,591	522,090
Percent	0.03	1.20	18.29	0.13	56.22	12.38	0.15	11.61	100.00
Sample Size	3	52	356	4	1,453	167	9	175	2,219
Mean Length	492	549	515	590	564	523	601	575	551
Std. Error	4	3	1		1	2	18	2	1
Sample Size	3	52	356	4	1,447	167	9	175	2,213
Mean Weight	2.01	2.94	2.43	3.90	3.22	2.48	4.44	3.35	3.00
Std. Error		0.13	0.03		0.03	0.05		0.08	0.02
Sample Size	2	16	101	1	432	44	2	54	652

Table 58. Daily sockeye salmon escapement counts, Togiak Lake, 1991.

Date	Daily Count ^a	Cumulative Count	Daily Percent of Total	Cumulative Percent
July 3	12	12	0.00	0.00
4	396	408	0.16	0.16
5	4,206	4,614	1.65	1.81
6	7,530	12,144	2.96	4.77
7	7,512	19,656	2.95	7.72
8	4,656	24,312	1.83	9.55
9	11,124	35,436	4.37	13.91
10	16,914	52,350	6.64	20.55
11	18,876	71,226	7.41	27.97
12	9,990	81,216	3.92	31.89
13	7,578	88,794	2.98	34.86
14	6,180	94,974	2.43	37.29
15	7,800	102,774	3.06	40.35
16	16,314	119,088	6.41	46.76
17	14,394	133,482	5.65	52.41
18	16,434	149,916	6.45	58.86
19	12,774	162,690	5.02	63.88
20	9,000	171,690	3.53	67.41
21	6,786	178,476	2.66	70.08
22	6,630	185,106	2.60	72.68
23	5,790	190,896	2.27	74.95
24	4,014	194,910	1.58	76.53
25	6,114	201,024	2.40	78.93
26	3,366	204,390	1.32	80.25
27	1,884	206,274	0.74	80.99
28	480	206,754	0.19	81.18
29	3,606	210,360	1.42	82.60
30	5,454	215,814	2.14	84.74
31	10,062	225,876	3.95	88.69
Aug 1	6,204	232,080	2.44	91.13
2	4,446	236,526	1.75	92.87
3	2,010	238,536	.79	93.66
4	3,204	241,740	1.26	94.92
5	2,634	244,374	1.03	95.95
6	3,828	248,202	1.50	97.46
^b	6,481	254,683	2.54	100.00

^a An additional 23,720 sockeye salmon escaped to Togiak River (7,740 in the mainstem below tower and 15,980 in tributaries), bringing the Togiak River escapement to 278,403.

^b Counts expanded to include escapement which occurred after counting tower operations ceased.

Table 59. Age, sex, and size composition of sockeye salmon escapement, Togiak Lake, 1991.

		Age Group							
		0.2	0.3	1.2	1.3	2.2	2.3	2.4	Total ^a
Sample Period 1: 3 - 14 July									
Males	146			21,187	36,090	438	1,169		59,030
Percent	0.15			22.31	38.00	0.46	1.23		62.15
Sample Size	1			145	247	3	8		404
Mean Length	524			531	589	538	591		567
Std. Error				2	2	10	13		1
Sample Size	1			144	247	3	8		403
Females	146	292		13,881	19,871	731	1,023		35,944
Percent	0.15	0.31		14.62	20.92	0.77	1.08		37.85
Sample Size	1	2		95	136	5	7		246
Mean Length	493	531		500	557	522	561		534
Std. Error				3	2	9	7		2
Sample Size	1	2		95	135	5	7		245
Both Sexes	292	292		35,068	55,961	1,169	2,192		94,974
Percent	0.31	0.31		36.92	58.92	1.23	2.31		100.00
Sample Size	2	2		240	383	8	15		650
Mean Length	509	531		519	578	528	577		555
Std. Error				2	1	7	8		1
Sample Size	2	2		239	382	8	15		648
Sample Period 2: 15 - 17 July									
Males				6,989	12,509	559	210		20,267
Percent				18.15	32.48	1.45	0.55		52.63
Sample Size				100	179	8	3		290
Mean Length				531	591	546	594		569
Std. Error				2	2	7	35		1
Sample Size				99	179	8	3		289
Females				5,591	11,392	839	419		18,241
Percent				14.52	29.58	2.18	1.09		47.37
Sample Size				80	163	12	6		261
Mean Length				502	555	524	540		537
Std. Error				3	2	6	6		1
Sample Size				80	162	12	6		260
Both Sexes				12,580	23,901	1,398	629		38,508
Percent				32.67	62.07	3.63	1.63		100.00
Sample Size				180	342	20	9		551
Mean Length				518	574	533	558		554
Std. Error				2	1	4	12		1
Sample Size				179	341	20	9		549
Sample Period 3: 18 - 23 July									
Males				6,300	15,453	2,615	2,615		26,983
Percent				10.97	26.92	4.55	4.55		47.00
Sample Size				53	130	22	22		227
Mean Length				525	591	540	599		571
Std. Error				4	2	5	5		2
Sample Size				53	130	22	22		227
Females				10,936	14,621	2,140	2,734		30,431
Percent				19.05	25.47	3.73	4.76		53.00
Sample Size				92	123	18	23		256
Mean Length				495	555	511	558		531
Std. Error				2	2	7	5		1
Sample Size				92	122	18	23		255
Both Sexes				17,236	30,074	4,755	5,349		57,414
Percent				30.02	52.38	8.28	9.32		100.00
Sample Size				145	253	40	45		483
Mean Length				506	573	527	578		550
Std. Error				2	1	4	4		1
Sample Size				145	252	40	45		482

-Continued-

Table 59. (p 2 of 2)

	Age Group							
	0.2	0.3	1.2	1.3	2.2	2.3	2.4	Total ^a
Sample Period 4: 24 July - 6 August								
Males	81	81	6,854	12,821	2,258	3,226		25,321
Percent	0.13	0.13	10.75	20.10	3.54	5.06		39.70
Sample Size	1	1	85	159	28	40		314
Mean Length	429	561	526	591	538	592		568
Std. Error			3	2	4	5		1
Sample Size	1	1	85	159	28	39		313
Females	81	161	16,532	12,338	6,774	2,419	161	38,466
Percent	0.13	0.25	25.92	19.34	10.62	3.79	0.25	60.30
Sample Size	1	2	205	153	84	30	2	477
Mean Length	372	540	499	553	510	556	557	522
Std. Error		10	2	2	3	5	19	1
Sample Size	1	2	205	153	84	30	2	477
Both Sexes	162	242	23,386	25,159	9,032	5,645	161	63,787
Percent	0.25	0.38	36.66	39.44	14.16	8.85	0.25	100.00
Sample Size	2	3	290	312	112	70	2	791
Mean Length	401	547	507	572	517	577	557	540
Std. Error		10	1	1	2	3	19	1
Sample Size	2	3	290	312	112	69	2	790
All Periods Combined:								
Males	227	81	41,330	76,873	5,870	7,220		131,601
Percent	0.09	0.03	16.23	30.18	2.30	2.83		51.67
Sample Size	2	1	383	715	61	73		1,235
Mean Length	490	561	529	590	540	595		569
Std. Error			1	1	3	4		1
Sample Size	2	1	381	715	61	72		1,232
Females	227	453	46,940	58,222	10,484	6,595	161	123,082
Percent	0.09	0.18	18.43	22.86	4.12	2.59	0.06	48.33
Sample Size	2	4	472	575	119	66	2	1,240
Mean Length	450	534	499	555	512	556	557	530
Std. Error		10	1	1	3	3	19	1
Sample Size	2	4	472	572	119	66	2	1,237
Both Sexes	454	534	88,270	135,095	16,354	13,815	161	254,683
Percent	0.18	0.21	34.66	53.04	6.42	5.42	0.06	100.00
Sample Size	4	5	855	1,290	180	139	2	2,475
Mean Length	470	538	513	575	522	576	557	550
Std. Error		10	1	1	2	2	19	1
Sample Size	4	5	853	1,287	180	138	2	2,469

^a An additional 23,720 sockeye salmon escaped to Togiak River (7,990 in the mainstem and 15,730 in tributaries), but were not sampled.

Table 60. Age, sex, and size composition of chinook salmon commercial catch, Togiak River Section, Togiak District, 1991.

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
Sample Period 1: 7 - 20 June						
Males	12	451	258	37	4	762
Percent	1.36	50.96	29.15	4.18	0.45	86.10
Sample Size	3	110	63	9	1	186
Mean Length	326	519	674	864	971	588
Std. Error	6	4	10	34		5
Sample Size	3	109	63	9	1	185
Mean Weight	0.60	2.61	5.45	9.70		3.89
Std. Error		0.09	0.34	0.72		0.13
Sample Size	1	42	25	4		72
Females			70	53		123
Percent			7.91	5.99		13.90
Sample Size			17	13		30
Mean Length			756	834		790
Std. Error			14	21		12
Sample Size			17	13		30
Mean Weight			7.20	9.07		8.01
Std. Error			0.61	1.36		0.68
Sample Size			4	4		8
Both Sexes	12	451	328	90	4	885
Percent	1.36	50.96	37.06	10.17	0.45	100.00
Sample Size	3	110	80	22	1	216
Mean Length	326	519	691	846	971	616
Std. Error	6	4	9	19		4
Sample Size	3	109	80	22	1	215
Mean Weight	0.60	2.61	5.82	9.33		4.47
Std. Error		0.09	0.30	0.85		0.15
Sample Size	1	42	29	8		80
Sample Period 2: 21 Jun - 10 Aug						
Males		1,862	2,013	395	113	4,383
Percent		33.33	36.03	7.07	2.02	78.45
Sample Size		99	107	21	6	233
Mean Length		525	704	830	926	645
Std. Error		6	7	17	19	4
Sample Size		99	107	21	6	233
Mean Weight		2.87	6.90	9.60		5.39
Std. Error		0.16	0.50	2.12		0.31
Sample Size		35	27	3		65
Females			395	640	169	1,204
Percent			7.07	11.46	3.02	21.55
Sample Size			21	34	9	64
Mean Length			795	847	844	830
Std. Error			8	10	29	7
Sample Size			21	34	9	64
Mean Weight			8.92	11.14	10.57	10.33
Std. Error			0.27	0.51	2.34	0.44
Sample Size			5	16	3	24
Both Sexes		1,862	2,408	1,035	282	5,587
Percent		33.33	43.10	18.53	5.05	100.00
Sample Size		99	128	55	15	297
Mean Length		525	719	841	877	685
Std. Error		6	6	9	19	4
Sample Size		99	128	55	15	297
Mean Weight		2.87	7.23	10.55	10.57	6.48
Std. Error		0.16	0.42	0.87	2.34	0.26
Sample Size		35	32	19	3	89

-Continued-

Table 60. (p. 2 of 2)

	Age Group					
	1.1	1.2	1.3	1.4	1.5	Total
All Periods Combined:						
Males	12	2,313	2,271	432	117	5,145
Percent	0.19	35.74	35.09	6.67	1.81	79.50
Sample Size	3	209	170	30	7	419
Mean Length	326	524	700	833	927	636
Std. Error	6	5	6	15	19	4
Sample Size	3	208	170	30	7	418
Mean Weight	0.60	2.82	6.74	9.61		5.17
Std. Error		0.13	0.45	1.94		0.27
Sample Size	1	77	52	7		137
Females			465	693	169	1,327
Percent			7.18	10.71	2.61	20.50
Sample Size			38	47	9	94
Mean Length			790	846	844	826
Std. Error			7	9	29	7
Sample Size			38	47	9	94
Mean Weight			8.66	10.98	10.57	10.12
Std. Error			0.25	0.48	2.34	0.40
Sample Size			9	20	3	32
Both Sexes	12	2,313	2,736	1,125	286	6,472
Percent	0.19	35.74	42.27	17.38	4.42	100.00
Sample Size	3	209	208	77	16	513
Mean Length	326	524	715	841	878	675
Std. Error	6	5	5	8	19	3
Sample Size	3	208	208	77	16	512
Mean Weight	0.60	2.82	7.06	10.45	10.57	6.20
Std. Error		0.13	0.37	0.80	2.34	0.23
Sample Size	1	77	61	27	3	169

Table 61. Age, sex, and size composition of chum salmon commercial catch, Togiak River Section, Togiak District, 1991.

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 1: 7 - 20 June					
Males		47	259	7	313
Percent		9.42	51.90	1.40	62.73
Sample Size		7	39	1	47
Mean Length		588	599	618	598
Std. Error		19	5		5
Sample Size		7	39	1	47
Mean Weight		5.00	3.63		3.84
Std. Error			0.18		0.15
Sample Size		1	12		13
Females		27	159		186
Percent		5.41	31.86		37.27
Sample Size		4	24		28
Mean Length		580	579		579
Std. Error		9	6		5
Sample Size		4	24		28
Mean Weight		3.35	2.85		2.92
Std. Error		0.15	0.12		0.11
Sample Size		2	6		8
Both Sexes		74	418	7	499
Percent		14.83	83.77	1.40	100.00
Sample Size		11	63	1	75
Mean Length		585	591	618	591
Std. Error		13	4		4
Sample Size		11	63	1	75
Mean Weight		4.40	3.33		3.49
Std. Error		0.15	0.12		0.10
Sample Size		3	18		21
Sample Period 2: 1 - 18 July					
Males	617	17,540	15,348	343	33,848
Percent	0.78	22.18	19.41	0.43	42.81
Sample Size	9	256	224	5	494
Mean Length	535	573	591	605	581
Std. Error	7	2	2	14	1
Sample Size	9	256	224	5	494
Mean Weight	3.15	3.48	3.89	3.80	3.66
Std. Error	0.35	0.07	0.10		0.06
Sample Size	2	82	72	1	157
Females	274	22,885	21,789	274	45,222
Percent	0.35	28.94	27.56	0.35	57.19
Sample Size	4	334	318	4	660
Mean Length	541	549	559	569	554
Std. Error	15	1	1	18	1
Sample Size	4	334	318	4	660
Mean Weight	2.60	2.82	2.90	3.80	2.86
Std. Error	0.35	0.04	0.05		0.03
Sample Size	3	98	85	1	187
Both Sexes	891	40,425	37,137	617	79,070
Percent	1.13	51.13	46.97	0.78	100.00
Sample Size	13	590	542	9	1,154
Mean Length	537	559	572	589	565
Std. Error	7	1	1	11	1
Sample Size	13	590	542	9	1,154
Mean Weight	2.98	3.11	3.31	3.80	3.21
Std. Error	0.26	0.04	0.05		0.03
Sample Size	5	180	157	2	344

-Continued-

Table 61. (p 2 of 2)

	Age Group				
	0.2	0.3	0.4	0.5	Total
Sample Period 3: 19 July - 21 August					
Males	537	32,730	19,853		53,120
Percent	0.33	20.33	12.33		33.00
Sample Size	1	61	37		99
Mean Length	535	571	579		574
Std. Error		4	6		3
Sample Size	1	61	37		99
Mean Weight		3.75	3.64		3.71
Std. Error		0.22	0.21		0.16
Sample Size		15	9		24
Females	2,146	75,119	30,048	537	107,850
Percent	1.33	46.67	18.67	0.33	67.00
Sample Size	4	140	56	1	201
Mean Length	518	544	543	512	543
Std. Error	6	2	4		2
Sample Size	4	140	56	1	201
Mean Weight	2.45	2.76	2.58	2.00	2.70
Std. Error	0.05	0.06	0.07		0.05
Sample Size	2	50	15	1	68
Both Sexes	2,683	107,849	49,901	537	160,970
Percent	1.67	67.00	31.00	0.33	100.00
Sample Size	5	201	93	1	300
Mean Length	521	552	558	512	553
Std. Error	6	2	3		2
Sample Size	5	201	93	1	300
Mean Weight	2.45	3.06	3.00	2.00	3.03
Std. Error	0.05	0.08	0.10		0.06
Sample Size	2	65	24	1	92
All Periods Combined:					
Males	1,154	50,317	35,460	350	87,281
Percent	0.48	20.92	14.74	0.15	36.29
Sample Size	10	324	300	6	640
Mean Length	535	572	584	605	577
Std. Error	7	3	3	14	2
Sample Size	10	324	300	6	640
Mean Weight	3.15	3.66	3.75	3.80	3.69
Std. Error	0.35	0.14	0.13		0.10
Sample Size	2	98	93	1	194
Females	2,420	98,031	51,996	811	153,258
Percent	1.01	40.75	21.62	0.34	63.71
Sample Size	8	478	398	5	889
Mean Length	520	545	550	531	546
Std. Error	6	2	2	18	1
Sample Size	8	478	398	5	889
Mean Weight	2.47	2.77	2.71	2.61	2.75
Std. Error	0.06	0.05	0.05		0.03
Sample Size	5	150	106	2	263
Both Sexes	3,574	148,348	87,456	1,161	240,539
Percent	1.49	61.67	36.36	0.48	100.00
Sample Size	18	802	698	11	1,529
Mean Length	525	554	564	554	557
Std. Error	5	1	2	11	1
Sample Size	18	802	698	11	1,529
Mean Weight	2.61	3.07	3.13	2.96	3.09
Std. Error	0.08	0.06	0.06		0.04
Sample Size	7	248	199	3	457

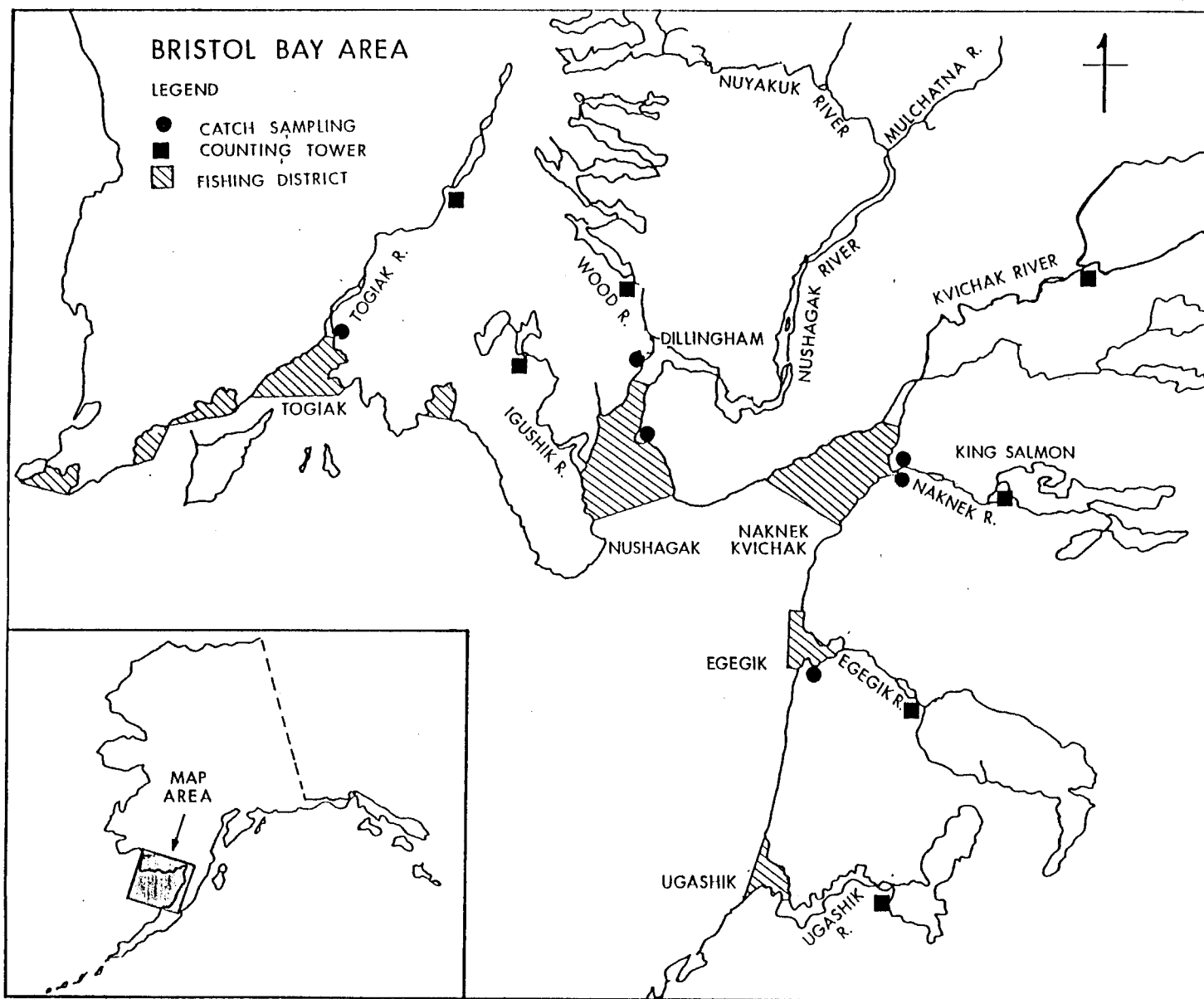


Figure 1. Bristol Bay major river systems and commercial fishing districts.

APPENDIX

Appendix A.1. South Alaska Peninsula June sockeye salmon catch by age group,
1956 to 1991.

Year	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
56	0	0	307	171421	0	207	46548	82096	0	28	28577	952	0	213	0	330349
57	1	1	336	7917	0	0	87928	34474	0	66	33151	27	54	267	0	164222
58	0	36	190	36837	1037	32	28739	35196	114	385	31617	521	58	238	0	135000
59	38	197	192	29043	100	0	5994	35686	0	34	5354	1760	17	48	0	78463
60	32	11	185	128250	443	3	11370	9057	35	4	6144	402	8	56	0	156000
61	5	34	275	5950	28	0	152839	79509	0	52	13874	291	149	810	184	254000
62	10	18	62	75129	267	0	30453	152907	11	681	66011	109	139	203	0	582000
63	238	173	961	42526	405	0	24870	40522	0	81	37484	1502	5	233	0	149000
64	61	253	244	125279	3850	3	34426	63010	11	12	14992	410	0	1449	0	244000
65	9	304	632	18089	88	0	44083	695203	0	13	16294	190	0	95	0	775000
66	5	0	597	44183	310	30	113657	100191	0	106	320250	1821	14	836	0	582000
67	39	393	690	28009	367	41	31611	141107	0	183	50488	735	37	1300	0	255000
68	219	2522	1351	219875	9894	82	119955	138031	75	575	77863	3320	41	1197	0	575000
69	1673	0	1120	517417	0	0	54813	245493	0	0	33770	1693	0	1021	0	857000
70	0	0	1071	142544	0	0	146131	1345170	0	0	43270	3209	0	1605	0	1683000
71	0	0	0	156994	0	0	221420	160930	0	0	61903	0	0	8753	0	610000
72	149	13	573	97941	0	4	118487	163039	0	866	135654	600	108	1566	0	519000
73	0	20	6452	12560	469	0	162010	8490	0	0	71680	0	0	319	0	262000
74	22	15	56	11015	327	28	7609	37375	0	101	3407	25	9	11	0	60000
75	27	49	336	15166	431	0	21930	170586	55	156	27209	2908	44	103	0	239000
76	48	20	1385	41578	148	0	68398	140307	23	91	39231	12724	43	3004	0	307000
77	58	425	1481	39827	100	158	44234	70983	0	78	79093	1809	10	744	0	239000
78	488	1708	366	257930	8370	111	119027	36942	0	3318	55531	1397	310	1502	0	487000
79	0	0	2289	315779	4043	0	70885	440145	0	0	28859	0	0	0	0	862000
80	4395	9350	0	586323	0	0	223607	2420379	0	0	56014	2932	0	0	0	3303000
81	15689	0	4303	338455	0	0	564765	674826	0	0	226962	0	0	0	0	1825000
82	0	0	3628	437003	0	0	1114939	177293	0	0	388137	0	0	0	0	2121000
83	0	0	4660	1084307	0	0	181247	583691	0	2052	102208	783	2052	0	0	1961000
84	210	168	12171	247255	0	0	216104	793385	0	1163	116074	980	490	0	0	1388000
85	130	0	15153	203265	4350	0	549464	669836	0	8469	252864	130	0	5339	0	1709000
86	822	0	11430	20242	58	0	138065	135689	0	642	158180	368	0	504	0	466000
87	790	0	30234	279448	195	881	260507	104860	0	4543	109610	1498	1687	606	0	794859
88	4458	0	5256	177541	3922	50	177386	314500	0	2000	71143	333	48	50	0	756687
89	5772	0	21439	135098	2368	175	232436	1083576	0	807	257670	1975	2527	662	0	1744505
90	3771	0	17002	219843	206	0	266776	493781	0	1478	329967	3121	0	226	0	1336171
91	3096	334	36835	292199	3994	2339	717388	315330	0	2932	176067	311	558	1767	0	1553150

Appendix A.2. Commercial salmon catch by period and species, Kulukak Section, Togiak District, 1991.

Catch (number of fish)						
Period ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
June 6	2	2	0	0	0	4
11	60	6	19	0	0	85
12	72	7	13	0	0	92
13	20	2	9	0	0	31
18	146	6	33	0	0	185
19	316	14	82	0	0	412
20	79	7	43	0	0	129
July 1	2,614	46	336	0	0	2,996
2	4,296	41	465	0	0	4,802
3	4,379	18	264	0	0	4,661
4	5,422	24	469	0	0	5,915
5	1,464	6	99	0	0	1,569
8	1,235	12	836	0	0	2,083
9	2,734	15	684	0	0	3,433
10	3,138	11	240	0	0	3,389
11	3,102	12	651	0	0	3,765
12	1,488	5	116	0	0	1,609
15	447	5	421	0	0	873
16	224	2	201	0	0	427
17	728	6	778	0	0	1,512
18	161	3	318	0	0	482
24	1,298	1	182	0	0	1,481
Total	33,425	251	6,259	0	0	39,935
Percent	83.7	0.6	15.7	0.0	0.0	100.0

^a Kulukak Section open three days per week. See Table 2 for emergency order adjustments in the weekly fishing schedule.

Appendix A.3. Commercial salmon catch by period and species, Matogak Section, Togiak District, 1991.

Period ^a	Catch (number of fish)					Total
	Sockeye	Chinook	Chum	Pink	Coho	
June 18	23	8	100	0	0	131
July 18	456	0	36	0	0	492
19	1,199	5	111	0	0	1,315
23	1,101	0	137	0	0	1,238
24	693	0	74	0	0	767
30	380	1	39	0	0	420
31	800	2	256	1	2	1,061
Aug. 1	74	0	43	0	0	117
2	226	4	117	3	2	352
3	58	0	78	0	3	139
6	52	0	52	0	2	106
Total	5,062	20	1,043	4	9	6,138
Percent	82.5	0.3	17.0	0.1	0.1	100.0

^a Matogak Section open five days per week. See Table 2 for emergency order adjustments in the weekly fishing period.

Appendix A.4. Commercial salmon catch by period and species, Osviak Section, Togiak District, 1991.

Catch (number of fish)						
Period ^a	Sockeye	Chinook	Chum	Pink	Coho	Total
June 4	0	2	0	0	0	2
10	10	7	42	0	0	70
11	41	26	22	0	0	89
12	67	38	78	0	0	183
13	123	39	59	0	0	221
14	30	48	47	0	0	125
15	31	63	43	0	0	137
18	138	23	213	0	0	374
19	291	46	250	0	0	587
20	186	51	268	0	0	505
July 5	89	1	73	0	0	163
Aug. 1	254	1	131	0	0	386
3	104	0	46	0	0	150
Total	1,375	345	1,272	0	0	2,992
Percent	46.0	11.5	42.5	0.0	0.0	100.0

^a Osviak Section open five days per week. See Table 2 for emergency order adjustments in the weekly fishing period.

Appendix A.5. Age, sex, and size composition of sockeye salmon commercial catch, Kulukak Section, Togiak District, 1991.

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
Sample Period 1: 6 June - 10 July										
Males	460	962	42	11,880	84		209			13,637
Percent	1.77	3.70	0.16	45.73	0.32		0.80			52.50
Sample Size	11	23	1	284	2		5			326
Mean Length	570	525	595	577	563		587			573
Std. Error	4	5		1	14		6			1
Sample Size	11	22	1	283	2		5			324
Mean Weight	3.00	2.63		3.60			3.70			3.51
Std. Error		0.18		0.06						0.05
Sample Size	1	8		87			1			97
Females	544	84		11,377	42	42	251			12,340
Percent	2.09	0.32		43.80	0.16	0.16	0.97			47.50
Sample Size	13	2		272	1	1	6			295
Mean Length	547	517		548	480	557	541			547
Std. Error	7	11		1			11			1
Sample Size	13	2		271	1	1	6			294
Mean Weight	2.76			2.72		2.80	2.73			2.72
Std. Error	0.20			0.05			0.14			0.04
Sample Size	5			75		1	3			84
Both Sexes	1,004	1,046	42	23,257	126	42	460			25,977
Percent	3.86	4.03	0.16	89.53	0.49	0.16	1.77			100.00
Sample Size	24	25	1	556	3	1	11			621
Mean Length	558	525	595	563	535	557	562			561
Std. Error	4	5		1	14		6			1
Sample Size	24	24	1	554	3	1	11			618
Mean Weight	2.87	2.63		3.17		2.80	3.17			3.14
Std. Error	0.20	0.18		0.04			0.14			0.03
Sample Size	6	8		162		1	4			181
Sample Period 2: 11 - 24 July										
Males	117	547	52	2,565	247	39	352		13	3,932
Percent	1.57	7.34	0.70	34.44	3.32	0.52	4.73		0.17	52.79
Sample Size	9	42	4	197	19	3	27		1	302
Mean Length	584	532	608	579	538	593	588		587	571
Std. Error	12	3	8	2	6	11	4			1
Sample Size	9	42	4	197	19	3	27		1	302
Mean Weight	3.20	2.65	4.80	3.56	2.73	3.50	3.79			3.41
Std. Error	0.50	0.08		0.07	0.15		0.15			0.05
Sample Size	2	11	1	55	10	1	10			90
Females	156	169	39	2,723	182	13	221	13		3,516
Percent	2.09	2.27	0.52	36.56	2.44	0.17	2.97	0.17		47.21
Sample Size	12	13	3	209	14	1	17	1		270
Mean Length	528	507	562	547	519	580	559	562		544
Std. Error	6	6	17	1	4		4			1
Sample Size	12	13	3	207	14	1	16	1		267
Mean Weight	2.17	2.10		2.76	2.20		3.23			2.70
Std. Error	0.12	0.20		0.05	0.20		0.32			0.05
Sample Size	3	5		62	2		3			75
Both Sexes	273	716	91	5,288	429	52	573	13	13	7,448
Percent	3.67	9.61	1.22	71.00	5.76	0.70	7.69	0.17	0.17	100.00
Sample Size	21	55	7	406	33	4	44	1	1	572
Mean Length	552	526	588	562	530	590	577	562	587	558
Std. Error	6	3	9	1	4	11	3			1
Sample Size	21	55	7	404	33	4	43	1	1	569
Mean Weight	2.61	2.52	4.80	3.15	2.51	3.50	3.57			3.08
Std. Error	0.23	0.08		0.04	0.12		0.15			0.04
Sample Size	5	16	1	117	12	1	13			165

-Continued-

Appendix A.5. (p 2 of 2)

	Age Group									
	0.3	1.2	0.4	1.3	2.2	1.4	2.3	3.2	2.4	Total
All Periods Combined:										
Males	577	1,509	94	14,445	331	39	561		13	17,569
Percent	1.73	4.51	0.28	43.22	0.99	0.12	1.68		0.04	52.56
Sample Size	20	65	5	481	21	3	32		1	628
Mean Length	573	528	602	577	545	593	588		587	573
Std. Error	4	3	8	1	6	11	4			1
Sample Size	20	64	5	480	21	3	32		1	626
Mean Weight	3.04	2.64	4.80	3.59	2.73	3.50	3.76			3.49
Std. Error	0.50	0.12		0.05	0.15		0.15			0.04
Sample Size	3	19	1	142	10	1	11			187
Females	700	253	39	14,100	224	55	472	13		15,856
Percent	2.09	0.76	0.12	42.18	0.67	0.16	1.41	0.04		47.44
Sample Size	25	15	3	481	15	2	23	1		565
Mean Length	543	510	562	548	512	562	549	562		547
Std. Error	6	5	17	1	4		6			1
Sample Size	25	15	3	478	15	2	22	1		561
Mean Weight	2.63	2.10		2.73	2.20	2.80	2.96			2.72
Std. Error	0.16	0.20		0.04	0.20		0.17			0.03
Sample Size	8	5		137	2	1	6			159
Both Sexes	1,277	1,762	133	28,545	555	94	1,033	13	13	33,425
Percent	3.82	5.27	0.40	85.40	1.66	0.28	3.09	0.04	0.04	100.00
Sample Size	45	80	8	962	36	5	55	1	1	1,193
Mean Length	556	525	590	563	531	575	570	562	587	560
Std. Error	4	3	9	1	4	11	3			1
Sample Size	45	79	8	958	36	5	54	1	1	1,187
Mean Weight	2.81	2.58	4.80	3.17	2.51	3.14	3.39			3.12
Std. Error	0.15	0.11		0.03	0.12		0.11			0.03
Sample Size	11	24	1	279	12	2	17			346

Appendix A.6. Age, sex, and size composition of sockeye salmon commercial catch, Osviak Section, Togiak District, 1991.

	Age Group					
	0.3	1.2	1.3	1.4	2.3	Total
All Periods Combined						
Males	14	14	673			701
Percent ^a	1.02	1.02	48.95			50.98
Sample Size	1	1	49			51
Mean Length	599	556	579			579
Std. Error			3			3
Sample Size	1	1	49			51
Females	28	14	576	28	28	674
Percent ^a	2.04	1.02	41.89	2.04	2.04	49.02
Sample Size	2	1	42	2	2	49
Mean Length	531	522	550	553	558	549
Std. Error	10		3	30	8	3
Sample Size	2	1	42	2	2	49
Both Sexes	42	28	1,249	28	28	1,375
Percent ^a	3.05	2.04	90.84	2.04	2.04	100.00
Sample Size	3	2	91	2	2	100
Mean Length	553	539	566	553	558	564
Std. Error	10		2	30	8	2
Sample Size	3	2	91	2	2	100

^a Based on a sample size of 100 and given these estimated age proportions, this sample size would estimate true age composition within 10 percentage points 90% of the time.

Appendix A.7. Age, sex, and size composition of chum salmon
commercial catch, Kulukak Section, Togiak
District, 1991.

	Age Group			
	0.2	0.3	0.4	Total
All Periods Combined				
Males	87	1,565	826	2,478
Percent ^a	1.39	25.00	13.20	39.59
Sample Size	4	72	38	114
Mean Length	548	573	583	575
Std. Error	5	3	4	2
Sample Size	4	72	38	114
Mean Weight		3.39	3.53	3.44
Std. Error		0.14	0.21	0.11
Sample Size		21	7	28
Females	109	2,433	1,239	3,781
Percent ^a	1.74	38.87	19.80	60.41
Sample Size	5	112	57	174
Mean Length	538	550	569	556
Std. Error	7	2	3	2
Sample Size	5	112	57	174
Mean Weight	2.47	2.73	3.04	2.82
Std. Error	0.13	0.07	0.11	0.06
Sample Size	3	41	17	61
Both Sexes	196	3,998	2,065	6,259
Percent ^a	3.13	63.88	32.99	100.00
Sample Size	9	184	95	288
Mean Length	543	559	574	564
Std. Error	5	2	3	1
Sample Size	9	184	95	288
Mean Weight	2.47	2.99	3.24	3.06
Std. Error	0.13	0.07	0.11	0.06
Sample Size	3	62	24	89

^a Based on a sample size of 288 and given these estimated age proportions this sample size would estimate the true age composition within 10 percentage points 90% of the time.

Appendix A.8. Age, sex, and size composition of chum salmon commercial catch, Osviak Section, Togiak District, 1991.

	Age Group			
	0.3	0.4	0.5	Total
All Periods Combined				
Males	74	553	92	719
Percent ^a	5.82	43.47	7.23	56.53
Sample Size	4	30	5	39
Mean Length	556	601	620	598
Std. Error	13	6	13	5
Sample Size	4	30	5	39
Females	92	443	18	553
Percent ^a	7.23	34.83	1.42	43.47
Sample Size	5	24	1	30
Mean Length	566	572	580	572
Std. Error	13	5		5
Sample Size	5	24	1	30
Both Sexes	166	996	110	1,272
Percent ^a	13.05	78.30	8.65	100.00
Sample Size	9	54	6	69
Mean Length	561	588	614	587
Std. Error	9	4	13	4
Sample Size	9	54	6	69

^a Based on a sample size of 69 and given these estimated age proportions this sample would estimate the true age composition within 10 percentage points 80% of the time.

Appendix A.9. Kvichak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950											0	248	0	0	0	0	248
1951							0	221	3377	0	0	983	0	1	0	0	4582
1952				0	9954	0	0	6681	2956	0	0	654	1	0	1	0	20248
1953		0	0	0	91	0	0	62	365	0	0	60	0	0	0	16	593
1954		0	0	0	81	17	0	29	643	0	0	0	0	0	29	0	799
1955		0	0	0	251	14	0	100	589	0	0	531	20	0	0	0	1504
1956	9443	0	14	0	24273	0	0	6968	6472	0	0	1308	0	0	0	0	39036
1957	2843	8	0	0	243	0	0	244	3333	0	2	259	0	0	2	0	4091
1958	535	0	0	0	76	0	0	48	135	0	0	26	0	0	3	0	289
1959	680	0	0	0	212	1	0	117	206	0	0	11	0	0	0	0	547
1960	14630	0	0	1	1314	134	0	563	46746	0	0	6485	10	0	6	0	55259
1961	3706	1	0	0	334	0	0	190	2293	0	0	679	5	0	0	0	3503
1962	2581	0	0	0	104	2	0	152	4675	0	0	408	12	0	4	0	5357
1963	339	0	0	0	49	3	0	50	639	0	0	366	3	0	9	0	1120
1964	957	0	8	0	2232	105	0	407	2341	0	0	647	8	0	3	0	5751
1965	24326	0	25	0	9853	484	0	471	32951	0	0	1239	2	0	1	0	45026
1966	3775	4	11	6	497	11	0	1086	4262	0	0	385	0	1	0	0	6262
1967	3216	0	0	5	349	2	0	272	812	0	0	86	0	0	0	0	1527
1968	2557	0	0	0	293	0	0	34	77	0	5	132	0	0	2	0	543
1969	8394	0	0	1	129	7	0	321	4221	0	0	595	19	0	11	0	5304
1970	13935	0	1	0	43	40	0	13	14463	6	0	848	412	0	7	0	15834
1971	2387	0	0	0	244	18	0	93	2169	0	0	303	2	0	0	0	2829
1972	1010	0	0	0	255	1	0	159	1206	0	22	297	0	0	0	0	1941
1973	227	0	0	2	576	2	2	1028	274	0	3	543	28	0	0	0	2457
1974	4434	0	9	1	6328	309	0	2009	16725	0	8	763	23	0	5	0	26179
1975	13140	0	5	0	5683	302	0	1232	30263	0	0	599	2	0	0	0	38087
1976	1965	0	5	11	5298	43	0	826	4115	0	4	273	0	0	0	0	10575
1977	1341	11	43	6	1934	2	0	935	208	0	0	99	0	0	0	0	3238
1978	4149	0	0	0	1835	16	0	1157	1318	0	0	817	11	0	6	0	5160
1979	11218	1	57	3	18331	73	0	2234	17931	0	0	3512	0	0	0	0	42142
1980	22505	0	2	5	2889	20	0	1641	8076	0	2	413	0	0	0	0	13048
1981	1754	0	0	12	789	0	0	231	931	0	0	167	0	0	0	0	2129
1982	1135	25	0	2	445	1	0	544	524	0	6	139	0	0	0	0	1685
1983	3570	0	1	5	8596	3	0	3010	1195	0	5	573	0	2	1	0	13392
1984	10491	0	0	4	2532	44	1	1924	16952	0	0	2446	8	0	2		23913 ^a
1985	7211	4	7	30	1024	29	0	1279	13375	0	2	1572	1				17322 ^a
1986	1179	10	0	27	693	0	1	1086	1395	0							3212 ^a
1987	6066	29	4	67	4195	31											4327 ^a
1988	4065	10	5														15 ^a

^a Incomplete returns from brood year escapement

Appendix A.10. Branch River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950											0	262	0	0	0	0	262
1951							0	294	343	0	0	43	0	0	0	0	681
1952				0	383	0	0	295	131	0	0	115	0	0	1	0	925
1953		0	0	0	5	0	0	11	64	0	0	0	0	0	0	0	80
1954		0	0	0	14	3	0	109	392	0	0	141	0	0	1	0	660
1955		0	0	0	788	0	0	237	26	0	0	44	0	0	0	0	1095
1956	784	5	0	0	1885	0	0	459	0	0	0	38	3	0	0	0	2390
1957	127	0	0	0	5	0	0	23	43	0	0	13	0	0	1	0	85
1958	95	0	0	0	43	0	0	26	27	0	0	52	0	0	0	0	147
1959	825	0	0	0	302	0	0	265	122	0	0	76	1	0	2	0	768
1960	1241	0	0	0	105	0	0	185	135	0	0	31	0	0	0	0	456
1961	90	0	10	1	89	1	0	185	7	0	0	0	0	0	0	0	292
1962	91	0	19	0	129	0	0	91	3	0	0	19	1	0	0	0	262
1963	203	0	0	0	199	1	0	140	34	0	0	1	0	0	0	0	376
1964	249	0	5	0	100	2	0	98	113	0	0	17	0	0	0	0	336
1965	175	0	6	0	104	1	0	161	10	0	0	17	0	0	0	0	299
1966	174	0	13	0	282	0	0	262	12	0	0	11	0	0	0	0	581
1967	203	0	9	8	291	1	0	51	46	0	0	7	0	0	0	0	413
1968	194	3	5	0	127	0	0	40	2	0	0	3	0	0	0	0	180
1969	182	0	0	0	4	1	0	54	105	0	0	25	0	0	0	0	190
1970	177	0	0	0	73	0	0	71	6	0	0	2	0	0	0	0	152
1971	187	0	2	0	26	0	0	28	31	0	0	37	0	0	2	0	126
1972	151	0	1	0	91	0	0	17	7	0	0	14	0	0	0	0	130
1973	35	0	0	0	97	1	0	130	18	0	0	2	0	0	0	0	248
1974	215	0	4	0	292	5	0	18	128	0	0	8	0	0	0	0	456
1975	100	0	15	0	415	0	0	340	3	0	1	1	0	0	0	0	775
1976	82	0	26	0	211	0	0	168	20	0	0	55	0	0	0	0	481
1977	100	0	27	0	141	1	0	700	0	0	4	9	0	0	0	0	881
1978	229	0	1	0	102	0	0	68	39	0	0	147	0	0	0	0	358
1979	294	0	3	2	459	2	0	297	32	0	0	3	0	0	0	0	799
1980	298	0	0	0	103	0	0	211	13	0	2	9	0	1	0	0	339
1981	82	0	0	0	55	0	0	171	53	0	2	11	0	0	0	0	291
1982	239	0	0	0	172	0	0	142	4	0	0	3	0	0	0	0	322
1983	96	0	0	0	148	0	0	131	33	0	0	3	0	0	0	0	316
1984	215	0	1	0	159	0	0	146	42	0	0	23	0	0	0		372 ^a
1985	118	0	3	0	357	0	0	112	91	0	0	8	0				573 ^a
1986	230	0	1	0	346	0	0	269	194	0							810 ^a
1987	154	0	0	0	158	0											158 ^a
1988	195	0	1														1 ^a

^a Incomplete returns from brood year escapement

Appendix A.11. Naknek River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950											0	1093	0	2	5	0	1100
1951							0	1295	688	0	0	1250	0	1	0	0	3234
1952				0	79	0	0	1199	108	0	7	176	1	0	2	0	1571
1953		0	0	0	24	0	0	135	177	3	0	206	42	0	1	1	589
1954		0	0	0	85	19	0	302	2129	0	0	587	0	13	3	0	3137
1955		0	0	0	720	1	0	820	214	0	0	88	2	4	2	0	1851
1956	1773	0	1	0	473	0	0	1701	3	0	17	304	0	0	0	0	2501
1957	635	0	0	0	53	2	0	329	505	0	1	674	5	0	3	0	1571
1958	278	0	0	0	112	4	0	211	539	0	0	168	3	0	2	0	1040
1959	2232	0	0	0	349	7	0	351	742	0	0	705	0	0	0	0	2155
1960	828	0	1	1	1408	9	0	625	696	0	0	1278	1	1	2	0	4023
1961	351	0	0	0	239	3	0	744	315	0	3	640	0	0	8	0	1953
1962	723	0	0	0	76	4	0	230	351	0	2	397	13	0	1	0	1074
1963	905	0	0	0	136	8	0	390	833	0	0	627	7	0	1	0	2003
1964	1350	0	1	0	447	24	0	264	1135	0	0	177	11	0	1	0	2061
1965	718	0	5	0	540	44	0	360	732	0	0	437	1	0	1	0	2121
1966	1016	1	4	0	728	2	0	2304	167	0	1	630	0	1	0	0	3837
1967	756	0	0	2	326	6	0	625	401	0	0	356	0	1	0	0	1716
1968	1023	0	3	0	152	0	0	234	83	0	0	269	2	0	2	0	745
1969	1331	0	0	0	47	3	0	307	976	0	0	1211	5	0	3	0	2552
1970	733	0	1	0	154	19	0	318	1845	0	0	370	12	0	0	0	2718
1971	936	0	1	0	397	24	0	559	1428	0	0	1844	3	9	8	0	4274
1972	587	0	3	0	245	3	0	241	161	0	3	599	9	0	1	0	1264
1973	357	0	0	0	494	0	0	618	524	0	0	598	0	0	0	0	2235
1974	1241	0	2	0	232	3	0	228	1026	0	1	783	5	0	5	0	2285
1975	2027	0	1	0	425	11	0	1746	1393	0	0	1641	1	8	0	0	5226
1976	1321	0	4	0	1084	3	0	4048	1575	0	21	1491	0	28	1	0	8256
1977	1086	2	10	7	635	0	0	2272	95	0	64	401	0	1	5	0	3493
1978	813	0	1	0	331	4	0	1695	1121	0	11	530	2	0	0	0	3694
1979	925	0	4	1	2438	4	0	973	792	0	9	408	4	0	3	0	4637
1980	2645	0	1	1	723	14	0	1505	1192	0	9	828	0	2	0	0	4274
1981	1796	0	4	0	782	9	0	2568	473	0	12	937	0	3	0	0	4788
1982	1156	0	3	3	185	0	0	1172	191	0	23	457	0	9	0	0	2043
1983	888	0	0	1	163	7	0	484	336	0	5	480	0	0	1	0	1477
1984	1242	0	1	0	469	23	0	911	1214	0	22	1798	5	1	4		4448 ^a
1985	1850	0	2	6	656	20	1	3524	1284	0	44	1452	0				6988 ^a
1986	1978	0	3	6	1996	6	1	7218	1280	0							10511 ^a
1987	1062	3	0	11	337	4											355 ^a

^a Incomplete returns from brood year escapement

Appendix A.12. Egegik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949														0	14	0	14
1950											0	274	70	4	23	0	371
1951							0	325	1018	0	1	1301	2	0	6	0	2654
1952				0	623	0	0	446	241	0	1	295	19	2	5	0	1633
1953		0	0	0	26	0	0	39	435	2	0	337	254	0	12	0	1104
1954		0	0	0	11	4	0	13	1190	0	0	641	87	0	46	0	1990
1955		0	1	0	20	0	0	163	672	0	0	396	6	1	6	0	1265
1956	1104	0	6	0	2025	0	0	3190	925	0	2	685	1	0	12	0	6846
1957	391	0	0	0	37	0	0	43	1096	0	0	927	70	0	62	0	2236
1958	246	0	0	0	42	2	0	73	817	0	0	308	16	0	3	0	1263
1959	1072	0	0	0	73	2	0	164	1037	0	0	467	14	0	24	0	1783
1960	1799	8	0	0	447	21	0	328	4447	0	1	2560	49	0	50	0	7912
1961	702	0	0	3	82	0	0	229	446	0	1	791	28	0	10	0	1591
1962	1027	0	0	0	22	0	0	69	950	0	0	375	28	0	30	0	1475
1963	998	0	0	1	16	2	0	112	538	1	1	506	74	0	7	0	1258
1964	850	0	1	0	126	6	0	69	1454	1	0	242	73	0	12	0	1983
1965	1445	0	0	0	104	35	0	72	2016	0	4	845	6	2	20	0	3103
1966	804	0	0	1	249	0	0	752	600	0	2	890	7	0	10	0	2511
1967	637	0	0	2	60	2	0	257	665	0	0	622	1	1	2	0	1613
1968	339	0	0	0	41	0	0	56	87	0	0	258	3	5	9	0	458
1969	1016	0	0	0	12	1	0	111	1096	0	0	1141	279	2	113	0	2756
1970	920	0	0	0	59	0	0	89	796	0	1	175	95	0	25	0	1240
1971	634	0	0	0	45	2	0	109	1477	0	0	970	74	1	55	0	2732
1972	546	0	0	1	57	2	0	61	1508	0	0	1264	48	0	18	0	2959
1973	329	0	0	0	76	0	0	135	578	0	0	851	35	0	4	0	1679
1974	1276	0	0	0	131	18	0	99	2224	0	0	496	54	0	3	0	3025
1975	1174	0	0	0	148	9	0	241	2449	2	0	797	14	2	1	0	3663
1976	509	1	1	2	612	59	0	789	3003	0	4	846	0	0	0	0	5317
1977	693	0	2	0	823	1	0	1969	688	0	14	655	52	0	13	0	4217
1978	896	0	0	2	398	6	0	510	6071	0	0	2184	25	4	8	0	9208
1979	1032	0	3	0	712	9	3	520	3036	0	4	1659	0	0	0	0	5947
1980	1061	0	1	13	803	26	0	2225	4576	0	6	917	7	0	0	0	8575
1981	695	0	0	6	544	64	0	953	3284	0	11	1438	9	0	7	0	6317
1982	1035	2	2	4	988	12	0	1874	1796	0	9	1638	11	2	2	0	6340
1983	792	0	3	0	1748	7	1	2763	3235	0	7	2822	21	22	16	0	10645
1984	1165	0	1	8	608	85	0	978	6539	3	10	4846	208	13	39		13336 ^a
1985	1095	4	0	9	567	32	0	1375	4263	0	9	1264	8				7530 ^a
1986	1152	0	2	14	1846	10	0	3725	3933	0							9530 ^a
1987	1274	2	0	9	890	66											967 ^a
1988	1613	0	1														1 ^a

^a Incomplete returns from brood year escapement

Appendix A.13. Ugashik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escapement	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1949														0	2	0	2
1950											1	45	0	0	3	0	49
1951							1	47	174	0	2	118	1	0	0	0	342
1952				1	508	0	0	391	209	0	0	78	2	0	0	0	1189
1953		0	0	0	216	0	0	249	420	0	0	216	7	0	0	0	1108
1954		0	0	0	24	3	0	28	395	0	0	61	0	0	0	0	511
1955		0	0	1	17	1	0	33	118	0	0	7	0	0	0	0	177
1956	425	1	12	0	3165	0	0	837	80	0	2	35	0	0	0	0	4132
1957	215	0	0	1	35	0	0	105	354	0	2	100	4	0	2	0	603
1958	280	0	0	0	63	0	0	105	444	0	0	66	0	0	0	0	679
1959	219	0	0	0	18	0	0	38	310	0	0	132	0	0	1	0	498
1960	2304	0	0	0	674	11	0	296	1563	0	0	487	0	0	0	0	3032
1961	349	0	0	3	240	2	0	500	247	0	1	120	0	0	0	0	1113
1962	255	0	0	2	77	2	0	130	185	0	0	27	0	0	0	0	424
1963	388	0	0	0	13	0	0	21	91	0	0	23	0	0	0	0	148
1964	473	0	0	0	31	9	0	16	245	0	0	18	0	0	2	0	324
1965	997	0	0	0	86	2	0	38	249	0	1	162	1	0	0	0	538
1966	704	1	0	2	723	0	0	1478	90	0	0	21	0	0	0	0	2315
1967	239	0	0	0	56	0	0	50	44	0	0	34	0	0	0	0	184
1968	71	0	0	0	14	0	0	7	15	0	0	3	0	0	0	0	40
1969	160	0	0	0	4	0	0	5	53	0	0	26	2	0	2	0	92
1970	735	0	0	0	4	1	0	2	256	0	1	28	2	0	1	0	295
1971	530	0	0	0	178	0	0	236	290	0	0	130	0	0	1	0	835
1972	79	0	0	0	35	0	0	58	119	0	0	41	2	0	3	0	258
1973	39	0	0	1	16	0	0	8	17	0	0	46	4	0	0	0	92
1974	62	0	0	0	13	10	0	15	602	0	0	83	2	0	0	0	724
1975	429	0	3	0	1484	4	0	575	1721	0	0	325	2	1	0	0	4116
1976	356	0	0	2	2027	58	0	1527	1248	0	7	437	0	0	3	0	5309
1977	202	0	2	18	585	0	0	1614	266	0	10	186	6	1	4	0	2693
1978	82	0	0	5	247	7	0	413	863	0	6	523	1	0	0	0	2064
1979	1707	0	20	0	3076	8	0	851	1471	0	14	562	0	5	0	0	6006
1980	3335	0	1	13	1183	39	0	2309	3371	0	10	850	3	2	0	0	7782
1981	1328	0	2	10	1603	4	0	2632	2278	0	4	933	1	1	0	0	7468
1982	1186	0	1	15	423	1	1	713	606	0	9	737	0	2	0	0	2508
1983	1001	0	0	10	650	6	1	342	632	0	3	319	1	1	0	0	1965
1984	1270	0	0	5	472	55	0	568	3635	0	13	705	1	0	4		5459 ^a
1985	1006	2	1	6	508	2	0	720	977	0	5	481	0				2702 ^a
1986	1016	5	1	47	507	1	1	2476	1904	0							4941 ^a
1987	687	7	1	9	841	11											68 ^a
1988	654	1	2														2 ^a

^a Incomplete returns from brood year escapement

Appendix A.14. Wood River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Brood Year	Return by Age Group (in thousands)																Total
	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	
1950											1	57	0	0	0	0	58
1951							0	456	290	0	3	54	0	0	1	0	803
1952				0	690	0	0	558	29	0	2	34	0	0	0	0	1314
1953		0	0	0	301	0	0	331	139	0	2	34	0	0	1	0	809
1954		0	0	0	1237	0	0	140	1085	0	1	66	0	0	0	0	2529
1955		0	0	0	2407	0	0	833	401	0	5	143	0	0	0	0	3789
1956	773	0	0	48	774	0	0	627	24	0	0	0	0	0	0	0	1472
1957	289	0	0	21	136	0	0	257	35	0	0	0	0	0	0	0	449
1958	960	0	1	0	2145	1	0	389	75	0	0	32	0	0	0	0	2643
1959	2209	0	0	1	979	10	0	398	359	0	1	55	0	0	2	0	1805
1960	1016	0	6	0	1474	0	0	1039	106	0	2	105	1	0	0	0	2732
1961	461	0	0	10	255	0	0	1183	24	0	2	20	0	1	1	0	1495
1962	874	1	2	0	992	1	2	340	116	0	6	43	0	0	0	0	1503
1963	721	0	0	0	536	1	0	769	76	0	0	46	0	0	0	0	1427
1964	1076	0	1	6	452	0	0	347	338	0	0	74	0	0	2	0	1219
1965	675	2	1	8	472	1	0	999	90	0	0	213	0	0	1	0	1787
1966	1209	0	7	29	974	0	0	988	46	0	7	69	0	0	1	0	2122
1967	516	0	3	21	642	0	0	269	75	0	2	80	0	0	0	0	1090
1968	649	0	1	0	514	0	0	565	5	0	4	19	0	0	0	0	1108
1969	604	0	0	4	57	0	0	445	201	0	10	116	0	0	0	0	834
1970	1162	0	2	0	1539	0	0	1002	231	0	0	26	0	0	0	0	2799
1971	851	3	0	18	456	0	0	576	198	0	1	49	0	0	0	0	1301
1972	431	2	1	22	779	0	0	631	32	0	20	27	0	0	0	0	1514
1973	330	1	1	0	213	0	0	1148	74	0	3	44	0	0	0	0	1484
1974	1709	0	3	6	2956	4	0	1698	421	0	5	71	0	0	0	0	5164
1975	1270	13	47	12	1592	2	0	1977	406	0	2	734	0	0	0	0	4784
1976	817	0	3	0	2278	3	0	2589	572	0	10	265	0	0	0	0	5721
1977	562	0	20	0	1029	0	0	2173	40	0	0	26	2	0	0	0	3289
1978	2267	0	0	0	1364	3	0	1029	784	0	12	96	0	0	0	0	3288
1979	1706	0	10	0	2643	0	0	1491	24	0	1	13	0	0	0	0	4182
1980	2969	0	0	0	453	0	0	978	72	0	1	101	0	0	0	0	1606
1981	1233	0	0	0	626	0	0	1137	60	0	0	86	0	0	0	0	1909
1982	976	0	4	0	522	0	0	765	121	0	12	14	0	0	0	0	1438
1983	1361	0	1	5	1940	0	2	1154	15	0	2	75	0	0	0	0	3194
1984	1003	0	0	0	586	0	2	1340	32	0	15	22	0	0	0		1997 ^a
1985	939	8	3	15	1127	0	1	1418	30	0	2	13	0				2615 ^a
1986	819	7	2	26	1215	0	1	2017	71	0							3339 ^a
1987	1337	26	0	30	1413	0											1469 ^a
1988	867	5	1														6 ^a

^a Incomplete returns from brood year escapement.

Appendix A.15. Igushik River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950											1	78	0	0	0	0	78
1951							0	615	62	0	1	29	0	0	2	0	709
1952				0	147	0	0	303	9	0	5	73	0	0	0	0	538
1953		0	0	0	98	0	0	1	20	0	3	65	0	0	1	0	187
1954		0	0	0	175	0	0	269	204	0	0	113	0	1	0	0	763
1955		0	0	0	454	0	0	781	113	0	0	94	0	0	0	0	1443
1956	400	0	0	0	169	0	0	523	12	0	3	36	0	0	0	0	743
1957	130	0	0	0	2	0	0	35	19	0	0	20	0	0	0	0	76
1958	107	0	0	0	14	0	0	71	20	0	0	28	0	0	0	0	133
1959	644	0	0	0	101	0	0	155	93	0	0	22	0	0	0	0	372
1960	495	0	0	1	61	0	0	310	44	0	0	57	0	0	0	0	474
1961	294	0	0	1	33	0	1	364	20	0	0	17	0	0	0	0	437
1962	16	0	0	8	20	0	0	280	9	0	0	9	0	0	0	0	327
1963	92	0	0	3	254	0	0	190	36	0	0	25	0	0	0	0	508
1964	129	0	0	1	162	0	0	585	133	0	0	49	0	0	0	0	930
1965	181	0	0	0	371	0	0	436	203	0	0	80	0	0	0	0	1089
1966	206	0	0	0	66	0	0	383	6	0	0	15	0	0	0	0	470
1967	282	0	0	3	57	0	0	90	13	0	0	12	0	0	0	0	175
1968	195	0	0	0	43	0	0	120	0	0	2	10	0	0	0	0	176
1969	512	0	0	0	1	0	0	131	301	0	2	103	0	0	0	0	536
1970	371	0	0	1	26	0	0	170	41	0	0	71	0	0	0	0	309
1971	211	0	0	1	48	0	0	164	60	0	0	30	0	0	0	0	303
1972	60	0	0	4	89	0	0	109	6	0	8	13	0	0	0	0	229
1973	60	0	0	0	19	0	0	650	25	0	2	29	0	0	0	0	725
1974	359	0	0	7	441	1	0	750	346	0	4	25	0	0	0	0	1574
1975	241	0	0	0	783	0	0	2556	137	0	2	503	0	0	0	0	3981
1976	186	0	0	0	551	3	0	1411	194	0	20	215	0	0	0	0	2394
1977	96	0	0	6	294	0	0	1689	9	0	8	9	0	0	0	0	2015
1978	536	0	0	0	96	0	0	330	84	0	1	15	0	0	0	0	527
1979	860	0	0	0	422	0	0	406	13	0	0	5	0	0	0	0	847
1980	1988	0	0	0	20	0	0	271	25	0	0	56	0	0	0	0	373
1981	591	0	0	0	188	0	0	779	8	0	1	49	0	0	0	0	1025
1982	424	0	0	7	57	0	0	434	9	0	2	10	0	0	0	0	518
1983	180	1	0	0	151	0	0	353	8	0	2	29	0	0	0	0	544
1984	185	0	0	0	41	0	0	641	56	0	5	35	0	1	0		779 ^a
1985	212	0	0	7	515	0	0	933	86	0	7	79	0				1627 ^a
1986	308	3	0	14	239	0	1	2280	27	0							2564 ^a
1987	169	2	0	11	167	0											179 ^a

^a Incomplete returns from brood year escapement.

Appendix A.16. Nushagak River drainage salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

		Return by Age Group (in thousands)															
Brood																	
Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1974	185															0	0
1975	752														1	0	1
1976	470										38	281	0	0	0	0	319
1977	553						67	1946	3	0	134	11	1	0	0	0	2162
1978	664			436	100	0	149	779	20	0	1	6	0	1	0	0	1491
1979	499	18	0	466	494	0	16	854	6	0	42	5	0	0	0	0	1901
1980	3317	19	0	447	84	0	67	344	162	0	4	156	0	0	0	0	1284
1981	1012	9	0	137	170	0	14	1476	2	0	86	32	0	0	0	0	1926
1982	601	35	0	351	164	0	49	894	2	0	62	7	0	0	0	0	1563
1983	404	100	0	608	114	0	122	553	6	0	16	3	0	0	0	0	1521
1984	593	10	0	226	51	0	32	566	2	0	20	6	0	0	0		912
1985	498	68	0	510	64	0	62	610	6	0	13	17	0				1350 *
1986	990	68	0	853	116	0	59	696	0	0							1792 *
1987	388	145	0	925	38	0											1108 *
1988	483	71	0														71 *

^a Incomplete returns from brood year escapement.

Appendix A.17. Togiak River sockeye salmon escapement and return by brood year including estimated interception catch from Japanese mothership fishery and South Peninsula June sockeye fishery.

Return by Age Group (in thousands)																	
Brood Year	Escape.	0.2	1.1	0.3	1.2	2.1	0.4	1.3	2.2	3.1	1.4	2.3	3.2	2.4	3.3	3.4	Total
1950											0	28	0	0	0	0	28
1951							0	98	53	0	0	9	0	0	0	0	160
1952				0	152	0	0	58	9	0	0	6	0	0	0	0	225
1953		0	0	1	31	0	0	84	8	0	0	16	0	0	0	0	141
1954		0	0	0	20	0	0	146	12	0	0	17	2	0	0	0	196
1955		0	0	0	136	0	0	190	9	0	1	38	0	0	0	0	373
1956	225	0	0	4	114	0	0	306	22	0	1	13	0	0	0	0	461
1957	25	2	0	5	48	0	0	70	20	0	0	36	1	0	0	0	182
1958	72	0	1	2	68	0	0	115	59	0	0	25	0	0	0	0	270
1959	210	0	0	0	141	0	0	92	56	0	0	7	0	0	0	0	296
1960	163	0	0	2	191	0	0	274	22	0	0	52	0	0	0	0	541
1961	122	1	0	3	85	0	0	216	15	0	1	19	0	0	0	0	340
1962	62	0	0	7	48	0	0	102	4	0	0	8	0	0	0	0	170
1963	116	0	0	2	43	0	0	65	18	0	0	24	0	0	0	0	152
1964	105	0	0	1	43	0	0	84	41	0	0	6	0	0	0	0	175
1965	96	0	0	2	154	0	0	181	31	0	0	37	0	0	0	0	406
1966	104	1	0	6	200	0	0	419	4	0	1	9	0	0	0	0	642
1967	81	1	0	6	18	0	0	99	16	0	1	40	0	0	0	0	181
1968	50	0	0	1	49	0	0	190	6	0	3	13	0	0	0	0	263
1969	117	0	0	5	28	0	0	142	25	0	3	13	0	0	0	0	216
1970	203	0	0	1	54	0	0	226	55	0	1	70	0	0	0	0	408
1971	200	0	0	4	106	0	0	317	62	0	1	68	0	0	0	0	558
1972	79	0	0	2	93	0	0	150	21	0	2	34	0	0	0	0	304
1973	107	1	0	10	151	0	0	442	18	0	1	31	0	0	0	0	654
1974	104	0	0	2	271	0	0	307	73	0	3	45	0	1	0	0	704
1975	181	1	0	7	195	0	0	848	87	0	2	59	0	0	0	0	1200
1976	189	0	0	1	189	0	0	558	142	0	4	175	0	0	0	0	1069
1977	163	0	0	5	232	0	0	617	14	0	4	14	0	0	0	0	884
1978	306	0	0	12	149	0	0	430	65	0	1	25	0	0	0	0	682
1979	198	1	0	1	270	0	0	293	12	0	2	5	0	0	0	0	583
1980	527	0	0	5	45	0	1	224	10	0	0	19	0	0	0	0	305
1981	307	2	0	11	53	0	0	245	15	0	1	16	0	0	0	0	345
1982	289	0	0	16	109	0	0	255	14	0	5	26	0	0	0	0	425
1983	213	1	0	3	285	0	2	924	9	0	2	21	0	0	0	0	1246
1984	151	0	0	14	21	0	0	109	4	0	1	20	0	0	0		170 ^a
1985	153	0	0	7	35	0	0	217	37	0	1	79	0				376 ^a
1986	203	0	0	26	85	0	1	458	86	0							656 ^a
1987	278	0	0	7	199	0											206 ^a
1988	309	1	0														1 ^a

^a Incomplete returns from brood year escapement.

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